SECTION 2

COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT 2016 AQMP

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Comment Letter from ITERIS, Inc. (Comment Letter #1)

From: John A. Lower <jal@iteris.com>
Sent: Tuesday, July 19, 2016 4:30 PM
To: Michael Krause; Henry Hogo
Cc: aravind.kailas@volvo.com
Subject: Comments on the draft AQMP

Thanks for the opportunity to comment on this important document. We strongly support the stated intent to "Invest in strategies and technologies meeting multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation". 1-1

Truck platooning is requested to be added as a safe and economic option to lower fuel consumption and reduces CO2 emissions. It also helps the traffic flow by reducing congestion.

Pages 4-36 and 4-37 detail the Final 2016 RTP/SCS TSM strategies, and summarize Transportation Control Measures into three main categories of 1) transit, intermodal transfer, and active transportation measures; 2) HOV lanes, HOT lanes, and their pricing alternatives; and 3) information-based transportation strategies. It is requested that reference also be given in this section to the other TSM improvements that are in the Final 2016 RTP/SCS TSM strategies, including: 1-2

- Advanced ramp metering
- Expansion and integration of the traffic signal synchronization network
- Other ITS improvements

Thanks,

ITERIS

John A. Lower
Associate Vice President
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jal@iteris.com | www.iteris.com

Responses to Comment Letter from ITERIS, Inc.
(Comment Letter #1)

Response to Comment 1-1:

Thank you for participating in this AQMP public process, your comments, and your strong support for the comprehensive Plan.

Truck platooning and other operational efficiencies will be considered during implementation of the "Further Deployment of Cleaner Technologies" measures in the State Mobile Source Strategy.

Response to Comment 1-2:

Chapter 4 of the Draft 2016 AQMP includes a broad overview of the integrated land use and transportation strategies including transportation control measures (TCMs) in the Final 2016 RTP/SCS and does not include or highlight individual intelligent transportation system (ITS) or transportation system management (TSM) measures. However, advanced ramp metering, and expansion and integration of the traffic signal synchronization network have been added in the Revised Draft 2016 AQMP per the request. More information on these measures can be found in the Final 2016 RTP/SCS available online at http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. It should be noted a more robust discussion of SCAG's TCMs are included in Appendix IV-C of the 2016 AQMP and their corresponding reductions are included in baseline emissions.

Comment Letter from Health Advocates (Comment Letter #2)

July 27, 2016
South Coast Air Quality Management Governing Board
Attn: Board Chair William Burke
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Dear Governing Board Chair Burke and Governing Board Members,

The 2016 South Coast Air Quality Management District's (South Coast AQMD) Air Quality Management Plan (AQMP) provides an integral opportunity for the South Coast AQMD to bring clean air to a region plagued with dirty air for decades. While air quality has improved in the region, more than 5,000 people die prematurely each year due to unsafe air. In fact, progress in reducing ozone pollution has leveled off in recent years. To make matters worse, the communities bearing the heaviest burden of the region's air quality crisis are disproportionately low-income people of color.

While the organizations represented in this letter are reviewing the draft AQMP and preparing more detailed comments, we write now to provide some immediate feedback on the draft, stipulating seven principles that should frame revisions to the final plan. In sum, these principles reflect a range of policy considerations which will help make the final plan just and equitable and help bring clean air back to the South Coast region and its more than 17 million residents, particularly the region's most vulnerable communities. The seven principles are: 2-1

1) The 2016 plan must demonstrate a measurable, enforceable pathway into compliance with the Clean Air Act and eliminate the "black box," which just defers tough decisions.

Southern California constantly receives an "F" for air quality and, despite progress, air quality continues to plague communities, particularly communities of color. This is unacceptable. The 2016

Air Quality Management Plan must provide a detailed set of enforceable measures that achieve the 2022, 2023 and 2032 deadlines for attainment. Reliance on black box measures presents an unfavorable trade-off for those who breathe in the South Coast Air Basin. While it may provide additional time to identify the strategies to attain an ozone standard, the track record of failing to actually identify these measures has resulted in decades of South Coast residents breathing smog-polluted air. We need a plan that reflects the urgency on the health impacts felt by Southern Californians, which means actually articulating the measures to meet clean air standards.

2-1 Con't

2) The 2016 plan should have early nitrogen oxide ("NOx") reductions, as the South Coast AQMD promised the public at the February 2015 Governing Board meeting.

During the long deliberation over the prior PM2.5 plan for the South Coast and the monitors in the Inland Empire still showing violations, the Governing Board promised it would explore bringing back measures with early NOx reductions. To date, this has not happened, and residents, particularly those residing in close proximity to polluters, need relief from the heavily polluted air. In fact, the Governing Board wasted an opportunity to fix the NOx RECLAIM program, which could have provided an opportunity for early NOx reductions. Instead, the Governing Board opted to approve a Western States Petroleum proposal that cut fewer credits out of the system on a more prolonged timeline. As people continue to suffer and die from air pollution, we call on the South Coast AQMD not to waste any more time or opportunities. Thus, the plan should include enforceable regulatory measures that reduce NOx in the near term to meet the 2023 deadline.

2-2

3) The 2016 plan must be just and address long standing inequities in air quality that disproportionately harms low income communities of color.

Recognizing the inequality in air quality that falls along demographic lines of race, ethnicity, and class in Southern California, the AQMP's measures must prioritize regulations, strategies, and investments that frontload reductions in communities ranked in the top 25% most over-burdened communities as designated by CalEPA's CalEnviroScreen tool. There is immense urgency to bring clean air to the communities most harmed by polluting fossil fuels, and the AQMP should demonstrate how it will address this inequity.

2-3

4) We need an enforceable clean air plan, not an incentive dollar wish list.

The draft AQMP recently released by the South Coast AQMD staff relies too heavily on unsecured incentive funding. More than 90% of proposed future reductions are dependent on incentive-based programs – many funded with unidentified dollars. While incentives can be helpful in pushing clean air gains, it is important that the financial responsibility of paying for clean air not be borne by those who can least afford it. Taxpayers should not be required to subsidize large polluting industries. Furthermore, the strategy to raise much of the money relies on actions well beyond the control of the South Coast AQMD and will not withstand scrutiny by the California Air Resources Board or the Environmental Protection Agency. It is a not a viable strategy to assume this money will be made available by Congress, for example. Such unfunded "incentives" are, similar to the

2-4

"black box," an ill-conceived way to avoid legal mandates to impose enforceable control measures. Rather, we need strict regulatory programs to help spur innovation and drive pollution reductions, clean vehicles and clean energy. 2-4 Con't

5) The AQMP should prioritize zero-emission technologies that maximize co-pollutant and greenhouse gas reduction benefits. 2-5

Through legislative, administrative, and local actions, California is pursuing strategies to solve the serious problems created by burning fossil fuels, from climate change to unhealthy air and more. Wherever feasible, AQMP measures must require and/or spur zero-emission technologies powered by clean energy.

6) The AQMP needs to commit to adopting clean energy measures for stationary and area sources.

There are a panoply of regulations that are excluded from the draft list of measures produced by South Coast AQMD staff. For example, the plan should include a requirement for solar or electric water heaters in all new development. It should require point of sale transition to electric hot water heaters. In addition, there should be a requirement that diesel backup generators are no longer permitted. The advent of clean energy like solar and storage provides important opportunities that do not appear in the current list of measures. The plan should also make sure it is not permitting the construction of new fossil fuel power plants. In particular, the draft measures seek to take credit for many programs designed to reduce energy demand. It is antithetical to take credit for these programs while simultaneously allowing the construction of new power plants. 2-6

7) While the authority over mobile sources of pollution is generally with the California Air Resources Board and the Environmental Protection Agency, the South Coast AQMD does have authority to clean up dirty vehicles. It must use this authority in this Plan.

The plan should commit to an overhaul of the Fleet Rules, which are purchasing requirements for fleets of vehicles. The plan should also commit to expanding the fleet rules to a broader set of fleets. In addition to fleet rules, the plan should also make use of its indirect source authority. The federal Clean Air Act and California's Health & Safety Code provide authority for local entities like the South Coast AQMD to advance clean vehicles through indirect source authority and transportation control measures. Under the Clean Air Act, the term "indirect source" means "a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution." 42 U.S.C. § 7410(a)(5)(C). 2-7

Particular focus should be placed on indirect sources in the Inland Empire, such as warehouses, where the majority of those displaced and burdened by under regulated logistics sprawl are low-income communities of color. We need this type of regulation to ensure that the massive tidal wave of new warehouses does not worsen air quality in what is already the most polluted area of the South Coast. Incidentally, this type of regulation could also be used to require clean energy at these facilities, including solar panels, microgrids, and other clean technologies.

In sum, these principles provide the framework for an equitable clean air plan that reflects the urgency so many Southern Californians feel when confronted daily with the air pollution killing so many and impairing the quality of life of so many more. We look forward to discussing this with you further in the coming weeks and months.

Sincerely,

Martha Arguello
Physicians for Social Responsibility – Los Angeles

Tom Dolan
Inland Congregations United for Change

Bahram Fazeli
Communities for a Better Environment

Evan Gillespie
Sierra Club

Michele Hassan
Center for Community Action and Environmental Justice

Maya Golden Krasner
Center for Biological Diversity

Fabi Lao
Coalition for Clean Air

Adrian Martinez
Earthjustice

David Pettit
Natural Resources Defense Council

John Yi
American Lung Association

CC:
Wayne Nastri, Acting Executive Officer
Jill Whynot, Chief Operating Officer
Philip Fine, Deputy Executive Officer

Responses to Comment Letter from Health Advocates (Comment Letter #2)

Response to Comment 2-1:

A primary goal of the 2016 AQMP is to eliminate reliance on the "black box" [CAA §182(e)(5)] to the maximum extent feasible. "Black box" measures are not needed for attainment of the 1-hour ozone standard. This is the first time any ozone attainment plan for the South Coast Air Basin has not relied on CAA §182(e)(5). Such reliance is still needed for the 8-hour ozone standards.

Response to Comment 2-2:

Already adopted rules and regulations will achieve significant NOx reductions prior to 2023, including recent RECLAIM amendments. As noted in Chapter 4, the 2016 AQMP does commit to adopt and implement regulations that will achieve NOx reductions prior to 2023.

Response to Comment 2-3:

A full Environmental Justice analysis is included as part of the Socioeconomic Assessment, whereby any disproportionate community impacts of the Plan will be assessed. Furthermore, nine toxic control measures are proposed in Chapter 9 of the Plan to address local health risk impacts of stationary sources in neighborhoods impacted by toxic sources.

Response to Comment 2-4:

From base year (2012), adopted existing regulations contribute to 68 percent NOx reductions by 2023 and 80 percent NOx reductions by 2031. The incentives approach is designed to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures and some stationary source measures. As other actions are identified, the needed funding levels will decrease. Staff is not aware of any additional feasible regulatory measures that could be included in the 2016 AQMP.

Response to Comment 2-5:

The 2016 AQMP prioritizes maximizing emission reductions utilizing zero-emission technologies when feasible and cost-effective for the attainment timeframes. However, in the near-term (i.e., on a schedule to attain the 1997 ozone standard by 2023) there may not be sufficient zero emission technologies available for all sources. As such, near-zero emission technologies will be needed. Attainment and significant health benefits will be realized in the short-term through low-NOx and near-zero transition technologies. It should be noted that ECC-01 is aimed at seeking co-benefits from existing greenhouse gas (GHG) reduction legislation. ECC-02 accounts for the co-benefits from existing energy efficiency regulations and ECC-03 seeks further efficiency gains that will reduce energy use or need while achieving NOx benefits.

Response to Comment 2-6:

Currently, there is no proposed control measure to mandate electric or solar water heaters in new developments or at point of sale; however, the current draft AQMP includes ECC-03 and CMB-02, which outline incentive programs along with future rulemaking to transition to zero and near-zero high efficiency water heaters that, in part, include solar electric water heaters, heat pumps, solar thermal pool heaters,

electric clothes washers and home weatherization. The proposed ECC-03 and CMB-02 control measures are additional and surplus to Rule 1121 and would maximize emissions benefits by incentivizing the coupling of renewables with the electric appliances. The potential for electric or solar water heaters will be considered during the rulemaking process for CMB-02.

CMB-01 seeks emission reductions with zero and near-zero emission technologies. Facility modernization efforts in CMB-01 consider energy storage for applications including replacement of backup generation combustion sources and/or serve as smaller onsite backup generation resources. SCAQMD anticipates this measure to help move away from traditional diesel generators and instead incorporate sustainable renewable technologies and help manage the grid. SCAQMD relies on the PUC and municipal utilities to evaluate the need for additional power plant construction, but SCAQMD rules ensure that any new or modified power plant will emit at the best available control technology levels. Additionally, there are several regulations which have stringent GHG reduction goals for power plants including the Federal Clean Power Plan which sets a statewide aggregate emissions target (CO2) for all affected electricity generating units by 2030, the California Cap-and-Trade regulation, and renewable portfolio standards.

Response to Comment 2-7:

The draft AQMP facility-based measures include new development and warehouses as mentioned by the commentator. The facility-based measures and MOB-08, that affects fleet vehicles, discuss an approach to identify actions that can be quantified and SIP creditable. The measures include language to develop an enforceable mechanism including potential rule development within the SCAQMD authority. Expansion of the fleet rules to private fleets would require EPA to grant a waiver under the Clean Air Act.

Comment Letter from Rafael Yanez (Comment Letter #3)

From: RY <ryin213@gmail.com>
Sent: Friday, July 29, 2016 2:38 PM
To: Michael Krause
Subject: Re: Comments for Draft 2016 Air Quality Management Plan

Mike, with regard to the rule review, there are rules on methane, cabin dioxide, VOC and PM emissions that "grandfather in" industries from having to upgrade and that's what I've been finding as well as the rule itself not going far enough due to being outdated and not current with current technologies that have been out for the past 5-10 years.

> On Jul 29, 2016, at 2:32 PM, RY <ryin213@gmail.com> wrote:
>
> Comments for Draft 2016 Air Quality Management Plan
>
> Issues faced by AQMD:
> Permit updating on methane, carbon dioxide and VOC emitting industries. When permits are being re-issued, no new permitting constrains are really being addressed.
> Additional staff or outsourcing the permit rule review to look at each of the major rules governing the release of methane, carbon dioxide and VOC gases such as the ones plaguing Terminal Island (off loading of ship waste), Wilmington (flaring of hydrocarbon emissions), Boyle Heights (plating companies, industrial sources like rendering plants, goods movement and rail yards) and City Terrace (Industrial Coatings) will be key to coming into compliance. 3-1
>
> With the need for 100% bypassing of solid waste and the need to separate food waste, the public and agencies alike need to ensure that "oxygenation" is ensure so that those bacterial don't become anaerobic which will produce more nitrogen oxides and methane gases. US EPA shows (https://www3.epa.gov/climatechange/ghgemissions/gases/n2o.html) that overall, it is Agricultural Soil Management is the major source of pollutants. With larger cities in the US being faced with having to compost and recycle up to 100% diversion from landfills by 2025, this will be the new source. Best to mitigate this now. 3-2
>
> Education is needed in the schools now to have full implementation so that we're not reliant on technologies to "clean up" the air, instead BMP's are key early on. Just like the need to teach the youth of today so that it translate at home. 3-3
>
> As far as PM2.5 reduction, dust management (Construction, Industrial and Street Cleaning / Maintenance) will be key as well as storm water runoff. Multi agency and regulatory bodies will need to get together and get water companies, while renewing their infrastructure in the coming years (new focus by federal government in job creation being campaigned on now), 3-4

install a greater network of reclaimed water for the purpose of dust control, but then we need to deal with the storm water runoff to curtail pollution to rivers and streams and ultimately the ocean. 3-4 Con't
>
> This would divert a large number of dollars from healthcare to new jobs and to better health for all as well as provide a revenue source for funding these 3 program targets listed above.

Responses to Comment Letter from Rafael Yanez
(Comment Letter #3)

Response to Comment 3-1:

The 2016 AQMP seeks the most effective pathway to ozone attainment by focusing on NOx reductions and includes control measures to make those NOx reductions. The Plan also includes measures to directly reduce VOC emissions to assist in meeting ozone attainment. With regard to the permitting, and compliance with those permit conditions, all facilities must comply with any existing and newly adopted rules and regulations. The 2016 AQMP includes a full analysis of all emissions and sources in all areas, and applies all feasible measures to those sources to achieve emissions reductions.

Response to Comment 3-2:

The 2016 AQMP proposes a measure (BCM-10) that will focus on composting of greenwaste and other foodwaste reduction technologies, including anaerobic digestion which could also reduce emissions.

Response to Comment 3-3:

The 2016 AQMP proposes a measure (FLX-01) that seeks to improve education and public outreach.

Response to Comment 3-4:

The 2016 AQMP includes a series of PM2.5 reduction strategies including one focused on reducing paved road dust (BCM-03). In particular, BCM-03 proposes further paved road dust PM2.5 emission reductions through specifying the frequency of street sweeping.

Comment Letter from CalRecycle (Comment Letter #4)

From: Reul-Chen, Crystal@CalRecycle <Crystal.Reul-Chen@calrecycle.ca.gov>
Sent: Friday, August 5, 2016 2:28 PM
To: Michael Krause; Jong Hoon Lee
Cc: Pogue, Kyle@CalRecycle
Subject: CalRecycle's Comments on SCAQMD's 2016 Draft AQMP

Dear Mr. Michael Krause and Jong Hoon Lee,

Thank you for the opportunity to comment on the preliminary draft 2016 Air Quality Management Plan (AQMP). CalRecycle would like participate in the finalization of the AQMP, and throughout the development of control measure (CM) BCM-10. Please put me, Dr. Crystal Reul-Chen (Crystal.Reul-Chen@calrecycle.ca.gov), on any pertinent contact lists for this process.

In the meantime, we would like to submit a few comments on CM# BCM-10 from the AQMP. Our comments are detailed here:

Technology neutral and performance-based specifications: We offer our comments specifically on CM# BCM-10 "Emissions Reductions from Green Waste Composting [VOC, NH3]" in the hopes of fostering technology-neutral and performance-based control measures from which to manage organic materials in the District. We caution against supporting any one technology over another. It is important with any of these technologies to have a comprehensive understanding of the air and water quality impacts of the storage, processing, and application or disposal of any feedstock or product. In lieu of supporting any one technology, we would recommend performance-based specifications for organic materials processing technologies. As California moves to achieve mandated organic materials management goals, we envision a variety of technologies being proposed to manage organic feedstocks, and a performance-based approach would be most effective regardless of the type of technology used to manage the organic materials. 4-1

Uncomposted Green Materials: The other concept that was suggested in BCM-10 was to restrict the use of uncomposted chipped and ground greenwaste on public lands within the air district based on one study (Burger et al., 2015). As SCAQMD proceeds with this proposed control measure we encourage alignment with current CalRecycle regulations, including those related to pathogen density limits. Also, it is extremely important to clearly define the terms "mulch", "uncomposted chipped and ground greenwaste", and "direct land application" as there are several different types of organic materials that fit these broad descriptions without all requiring composting. The potential positive roles these materials can play in supporting 2016 AQMP's reduction of PM-10 emissions within the District should also be accounted for. CalRecycle has references that can help SCAQMD align with our regulations, clarify definitions, and demonstrate PM-10 emissions reductions through the use of organic materials. 4-2

We look forward to working with your staff to further explore these issues as you proceed with your proposed rulemakings, and to helping SCAQMD achieve its air emissions goals. In the meantime, please don't hesitate to contact me at 916.341.6026, or Crystal.Reul-Chen@calrecycle.ca.gov to further discuss these comments.

Sincerely,

Crystal

Dr. Crystal Reul-Chen
Senior Environmental Scientist
Organic Materials Management

Responses to Comment Letter from CalRecycle
(Comment Letter #4)

Response to Comment 4-1:

The 2016 AQMP proposes a measure (BCM-10) that explores emerging technologies and performance-based specifications to be considered during rulemaking.

Response to Comment 4-2:

SCAQMD staff will align with CalRecycle regulations as was done for the previous organic materials rulemaking. Impacts of uncomposted green materials will be reviewed in detail during rulemaking.

Comment Letter from Senator Jim Dabakis (Comment Letter #5)

From: jim.dabakis@gmail.com on behalf of Jim Dabakis <jdabakis@le.utah.gov>
Sent: Monday, August 8, 2016 8:19 PM
To: James E. Enstrom; AQMP Inquiries
Subject: Re: BYU Professor Pope and the $38.2 Billion Question

Dear Dr Enstrom

As you are asking the greatly respected Professor Pope, Yes or No questions, let me ask you the same.

Are you the James Enstrom who In 1996, requested that the tobacco industry provide you with funds to conduct research into the health effects of passive smoking. Who in 1997 to 1998, received three tobacco industry grants, the combined value of which was $700,000; most of this money dedicated to the study of passive smoking. This study, published in BMJ in 2003, concluded that "The association between exposure to environmental tobacco smoke and coronary heart disease and lung cancer may be considerably weaker than generally believed. This study where a Dr Enstrom, used data from one of the American Cancer Society's databases, which had requested and received from the society.
Are you the Dr Enstrom that Michael Thun of the American Cancer Society criticize for not informing the ACS that he had requested or received funding from the tobacco industry? Are you the Enstrom who, in September 2006, the ACS sent the University of California, Los Angeles a letter charged with misrepresenting scientific evidence to deny that passive smoking was harmful? 5-1

Are you the same man who, In 2006, prosecutors in a federal racketeering case filed documents which stated that you had received $94,500 from the tobacco industry between 1992 and 1997? The following year, the judge in this case, Gladys Kessler, ruled that major tobacco companies were guilty of racketeering and misleading the public regarding the dangers of second-hand smoke, citing the paper co-authored by a James Enstrom, in the BMJ as evidence of this. Is that you?

Are you the Enstrom who in 2010, the University of California, Los Angeles School of Public Health announced it would not be rehiring because it felt his research was "not aligned with the academic mission" of their department? The Enstrom who in 2012, filed a lawsuit in federal court against UCLA in response to them terminating a position there?Are you the Enstrom that said UCLA administrators "discriminated against Dr. Enstrom based on his ideological and political affiliations and sought to purge an academic dissenter from their ranks? That in 2015, settled the case, with UCLA allowing to use the title "retired researcher" and continue to access university resources?

Is that you?

Most importantly, are you currently receiving any funding from polluters as you ask Dr Pope questions?

Senator Jim Dabakis

CC: Members of Legislature

On Mon, Aug 8, 2016 at 6:05 PM, James E. Enstrom <jenstrom@ucla.edu> wrote:

> August 8, 2016
>
> Utah State Legislators
>
> Salt Lake City, Utah
>
> Re: BYU Professor Pope and the $38.2 Billion Question
>
> Dear Utah State Legislators,
>
> I am an environmental epidemiologist and physicist who has had a long academic career at UCLA and I am an expert on the health effects of air pollution in California. I am writing to you because research findings and claims that fine particulate matter (PM2.5) *causes* premature deaths by Brigham Young University Professor of Economics C. Arden Pope, III, are being used by the South Coast Air Quality Management District (SCAQMD) to justify proposed new $38.2 billion air pollution regulations in Southern California. However, the scientific validity of Dr. Pope's findings has been continuously challenged since they were first published in 1995. Recently a very strong case has been made by nine accomplished experts, including myself, that "Particulate Matter Does Not *Cause* Premature Deaths" (https://www.nas.org/articles/nas_letter). In addition, there is overwhelming evidence from over a dozen sources, including both Dr. Pope and me, that PM2.5 is NOT related to total mortality in California (http://scientificintegrityinstitute.org/NoPMDeaths112215.pdf). Finally, in a June 12, 2013 letter to EPA, Congressmen Lamar Smith and Chris Stewart described the urgent need for transparency and reproducibility regarding Dr. Pope's research findings and they (unsuccessfully) requested the underlying data for his 1995, 2002, 2005, 2009, and 2009 research papers.

Since Dr. Pope is widely regarded as "The World's Leading Expert on the Effects of Air Pollution on Health," and since his extensive advice to CARB and SCAQMD is taken very seriously, I now ask Dr. Pope for a YES or NO answer to the following question: "In light of the above challenges to your PM2.5-mortality findings, do you support the way that the SCAQMD has used three studies co-authored by you (Jerrett et al. 2005, Krewski et al. 2009, and Jerrett et al. 2013) to calculate their 'Preliminary Health Impacts – Mortality', knowing that that these preliminary mortality impacts are the primary public health justification for a Draft 2016 Air Quality Management Plan (AQMP) that will impose an estimated $38.2 billion in compliance costs on the South Coast Air Basin economy?" The July 28, 2016 SCAQMD tables containing the preliminary mortality impacts and the preliminary AQMP costs are attached to this letter, with full details available at this weblink (http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=STMPRSocio_072816). A table summarizing all studies of PM2.5 and total mortality in California, with the 2005, 2009, and 2013 studies highlighted in red, is also attached. Relative risk of unity (RR = 1.00) means no relationship between PM2.5 and mortality. Finally, the 2013 letter by Congressmen Smith and Stewart is attached.

Because his findings will be discussed at an SCAQMD AQMP meeting next week, I request an answer from Dr. Pope by August 15, 2016. Until I receive a response to the contrary, I will assume that his answer to my question is YES. If you have the time to examine this matter, I request that you send your own answer to the above question to me (jenstrom@ucla.edu) and/or to SCAQMD (aqmp@aqmd.gov). Please let me know if you would like to discuss any aspect of this request with me.

Thank you very much for your consideration of this important matter.

Sincerely yours,

James E. Enstrom, Ph.D., M.P.H.

UCLA and Scientific Integrity Institute

jenstrom@ucla.edu

(310) 472-4274

Responses to Comment Letter from Senator Jim Dabakis
(Comment Letter #5)

Response to Comment 5-1:

Comment letter 5 is erroneously identified as an AQMP comment letter and has been deleted.

Comment Letter from Association of California Cities Orange County (Comment Letter #6)

ASSOCIATION OF CALIFORNIA CITIES
ORANGE COUNTY

500 S. Main Street, #410, Orange, CA 92868 | P: 714.953.1300 | F: 714.953.1302 | www.ACCOC.org

August 10, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

RE: Association of California Cities – Orange County Comments on AQMP

Dear Dr. Fine -

Thank you for preparing and providing for public review the 2016 Air Quality Management Plan. The Association of California Cities – Orange County has spent considerable time evaluating this draft on behalf of our region's 34 cities and numerous local governments.

The ACC-OC was also part of a technical working group composed of the Orange County Transportation Authority, Orange County Council of Governments, Transportation Corridor Agencies and several local jurisdictions. This group has collaborated on numerous technical and policy-level comments to the Draft. The ACC-OC firmly stands by these comments and urges AQMD to implement the recommendations.

But we also have several comments we are compelled to emphasize on behalf of our members and city governments. These comments focus on proposed Control Measures and offer recommended changes to make the overall Draft more effective, reasonable and beneficial for our shared constituencies. 6-1

EGM-01: EMISSION REDUCTIONS FROM NEW OR REDEVELOPMENT PROJECTS

This proposed measure is overly broad and could be interpreted to add a new fee to new development or redevelopment in AQMD's service area. The ACC-OC is strongly opposed to such a fee and requests clarifying language to EGM-01 that clearly states AQMD's intent with its evaluation of Rule 9510 from the San Joaquin Valley.

The well-documented housing affordability crisis is driving residents, businesses and employers out of our region. Fees for a new home in Southern California can

exceed hundreds of thousands of dollars per home! What's more, it is highly unclear what the impact and requirements from local jurisdictions would be with such a fee. The consideration of a new development and redevelopment fee is significant public policy. It should be debated as part of overall public policy debates, like the AQMP, and not in more obscure rulemaking processes. Therefore, as the 2016 AQMP is well underway, it is prudent that discussion of implementation of a similar rule to Rule 9510 be deferred to future AQMP developments.

6-1 Con't

BCM-03 FURTHER EMISSION REDUCTIONS FROM PAVED ROAD DUST SOURCES

Roughly 12 Orange County cities carry NPDES permits. Another several dozen organizations and local governments also hold these permits. An NPDES permit is among the most difficult to obtain from the U.S. Environmental Protection Agency. There are extraordinarily strict mandates, review and renewal processes administered by regional water quality control boards. AQMD currently does not have jurisdiction over the issuance, maintenance or mandates required of NPDES permits.

That is why we are concerned and confused that AQMD would suggest the "review existing NPDES mandates" as part of the BCM-03. The mandates and processes associated with NPDES permits should be left to regional water quality control boards. We urge AQMD staff to remove reference to NPDES mandate review as to not confuse jurisdictional and implementation issues related to these permits.

6-2

Again, the ACC-OC fully supports the additional technical and policy positions put forward in the Orange County Council of Governments letter. The aforementioned issues are of particular concern to the ACC-OC and we respectfully request the requested actions are completed.

Please contact me at (715) 953-1300 or hstratman@accoc.com with any questions on these requests and concerns.

Thank you,

Heather Stratman

Heather Stratman
Chief Executive Officer
Association of California Cities – Orange County

Responses to Comment Letter from Association of California Cities Orange County (ACCOC) (Comment Letter #6)

Response to Comment 6-1:

The proposed EGM-01 working group process will solicit feedback and input from affected stakeholders to determine the most efficient and cost-effective pathway of mitigating and potentially identifying additional air pollutant emission reductions from new or redevelopment projects, while minimizing economic impacts on businesses and residents in the region. San Joaquin Valley Rule 9510 allows the payment of fees in lieu of emission reductions at the developer's options. EGM-01 does not propose any mandatory fees.

Response to Comment 6-2:

The 2016 AQMP BCM-03 proposes further paved road dust PM2.5 emission reductions through specifying the frequency of street sweeping. To clarify, text in BCM-03 relative to NPDES permits was modified in the Final Draft of the 2016 AQMP to read as follows: "Street sweeping as part of routine roadway and highway maintenance may be included in a state, regional and/or local jurisdiction's National Pollutant Discharge Elimination System (NPDES) permits as part of federal Clean Water Act provisions to reduce debris from entering the storm drain system. NPDES permits are governed by the U.S. EPA and issued and maintained by regional water quality control boards. SCAQMD will coordinate with NPDES permittees and regional water quality control boards to ensure rules of this Plan or future Plans do not conflict with or otherwise compromise NPDES permit requirements. This review is not intended to be a part of the NPDES permit approval process or a reevaluation of existing NPDES permits, but is intended to determine current street sweeping or highway maintenance requirements and practices to ensure that any SCAQMD rulemaking would not be in conflict with existing NPDES permit requirements."

Comment Letter from Orange County Transportation Authority (Comment Letter #7)

August 9, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: **Draft 2016 Air Quality Management Plan**

Dear Dr. Fine:

The Orange County Transportation Authority (OCTA) appreciates the opportunity to provide comments on the Draft 2016 Air Quality Management Plan (AQMP). In addition, OCTA appreciates your diligent efforts to include a wide variety of stakeholders in your process as the final 2016 AQMP is developed.

Consistent with many of the strategies proposed in the AQMP, OCTA is currently taking actions that benefit air quality. These include upgrades to our bus fleet, such as: utilizing renewable natural gas, repowering 199 buses with 0.2 grams per brake horse-power engines (down from 2.0 grams per brake horse-power), ordering 0.02 gram per brake horse-power engines for 98 buses in our fleet, and acquiring a hydrogen fuel-cell bus, with another ten hydrogen fuel-cell buses and five electric buses pending a grant award. Other actions by OCTA that benefit sustainability include implementation of a regional network of bikeways, reallocation of transit resources to more efficiently serve high-demand areas, studying opportunities for transit-oriented development, and improving active transportation connectivity to transit services. 7-1

Furthermore, OCTA has a voter-approved sales tax measure to fund a multi-modal set of programs and projects that improve mobility in the region, reduce emissions, and preserve and enhance the environment. These include signal synchronization, system preservation, a new streetcar line, enhanced commuter rail services, freeway congestion management, an advanced-mitigation program that has set aside over 1,300 acres as permanent open space in Orange County, and a competitive funding program to mitigate water runoff beyond required standards.

OCTA does, however, have several concerns that we believe deserve further consideration prior to finalizing the AQMP. These concerns are outlined in the discussion below.

Orange County Transportation Authority
550 South Main Street / P.O. Box 14184 / Orange / California 92863-1584 / (714) 560-OCTA (6282)

Advanced Clean Transit

The California Air Resources Board's (CARB's) Advanced Clean Transit Regulation is included in the AQMP. This is intended to ensure that nearly every heavy-duty vehicle operated in California in 2023 will meet the 2010 heavy-duty engine emission standard. However, even a highly aggressive full-fleet penetration of 2010-compliant engines would not provide sufficient nitrous oxide (NOx) reductions to attain the federal ozone standard in the timeframe required. This proposed rulemaking also requires transit operators to replace their entire bus fleets with zero-emission technologies between 2018 and 2040.

The basic requirement to update bus fleets does not appear to be cost-effective, considering a battery electric or hydrogen fuel-cell bus costs between $900,000 and $1.5 million, plus the cost of fueling/charging infrastructure. A conventional compressed natural gas bus costs about $600,000. As such, implementation of the CARB regulation for buses could potentially lead to less funding for bus operations, which would likely result in reduced service levels and discretionary transit uses, which would disproportionately affect transit dependent populations in Orange County and the South Coast Air Quality Management District (SCAQMD) region. Given this, OCTA proposes that the Advanced Clean Transit regulation be performance based and technology neutral. This would help to reduce potential service impacts, and account for emission reduction efforts already underway, such as the current OCTA initiatives noted earlier. 7-2

Further, this level of investment by all of the transit operators throughout the region is only estimated to reduce NOx emissions by less than 200 pounds per day by 2023, and about 200 pound per day by 2031. This contributes extremely little to the 115 tons per day (tpd) reduction that is targeted for 2023, or the 124 tpd reduction targeted for 2031.

EGM-01 – Emission Reductions from New Development and Redevelopment Projects

The purpose of this measure is to mitigate and reduce emissions from new development and redevelopment projects. However, the description of EGM-01 is overly broad, and OCTA suggests that SCAQMD work with stakeholders to narrow this description or eliminate the strategy prior to finalizing the 2016 AQMP. Further, there are no quantifiable emission reductions associated with this measure, nor is there a cost-effectiveness analysis. 7-3

An EGM-01 working group consisting of affected stakeholders from local governments, the building industry, developers, realtors, other business representatives, environmental/community organizations, and other stakeholders, was established as part of the 2007 AQMP. OCTA respectfully requests inclusion in the working group when, and if, it is reconstituted.

7-3 Con't

In addressing indirect sources, the SCAQMD should develop implementation and compliance methods that will not unduly restrict local or regional jurisdictions' prerogatives with respect to land use approvals. During rule development, special consideration should be given to assure that any rule adopted will integrate with, and enhance, the California Environmental Quality Act (CEQA) process, and not impede the project approval process in light of CEQA timelines.

Incentive Strategies

The 2016 AQMP contains a number of measures that are designed to provide incentives to accelerate the penetration of zero- and near-zero emission technologies. Many of the measures target mobile sources that are regulated by the CARB and the United States Environmental Protection Agency (U.S. EPA).

It is therefore important to demonstrate within the 2016 AQMP that CARB and U.S. EPA are committed to these strategies, since they will likely be the implementing agencies. If they are not committed, these strategies should not be included in the 2016 AQMP, due to SCAQMD's inability to delegate to these agencies.

7-4

The Draft 2016 AQMP also notes that as much as $14 billion in funding must be identified in order to implement the "incentive strategies." Without identification of funding sources, these measures do not seem to be any more useful than the "black box" strategies that were included in previous AQMPs. OCTA is also concerned about the types of funding sources that could be considered and would appreciate involvement in making these determinations. OCTA's primary concern is related to potential increases in regulatory fees, or potential diversion of funds that OCTA depends on to deliver transit service, and the other programs mentioned earlier that contribute toward sustainability and quality of life.

Unquantified Measures

There are a number of measures that have not been quantified in the Draft 2016 AQMP. These are often referred to as "to-be-determined" or "TBD" measures. It may not be appropriate to include these types of measures in the 2016 AQMP, since the inclusion of measures implies some level of commitment toward delivering those measures. This could become problematic, considering an economic analysis cannot be performed without the quantified benefits.

Currently, it appears as though these measures could easily be put in place of the other quantified and committed measures by SCAQMD staff after the 2016 AQMP is approved. This kind of transfer of commitment should not be an action that can be implemented as an administrative change. OCTA also understands that the TBD measures may prove to be more cost effective than some of the other measures, and so it would make sense to pursue them. However, until the time that either a backstop measure is needed or a TBD measure is identified to be more cost effective than one of the currently quantified measures, OCTA requests that the TBD measures either be removed from the plan, or clearly separated from the quantified measures, and called out as uncommitted measures that require further development and evaluation. 7-5

Furthermore, should the TBD measures remain in the AQMP, OCTA requests that the 2016 AQMP include a discussion that clearly states the purpose for including these strategies and the process required to incorporate these strategies. This process would preferably include action by the SCAQMD Governing Board and opportunities for public review and comment.

Thank you once again for the opportunity to provide input on the Draft 2016 AQMP. Should you have any questions regarding the comments above, please contact Greg Nord, Principal Transportation Analyst, at 714-569-5885, or gnord@octa.net.

Sincerely,

Kia Mortazavi
Executive Director, Planning

KM:gn

c: Board of Directors
Executive Staff

Responses to Comment Letter from Orange County Transportation Authority (OCTA)
(Comment Letter #7)

Response to Comment 7-1:

SCAQMD appreciates the participation in the development of the 2016 AQMP and the efforts taken by OCTA to benefit air quality including upgrades to the bus fleet.

Response to Comment 7-2:

Comments regarding the Advanced Clean Transit regulation have been provided to CARB since the measure is part of the State Mobile Source Strategy. It is not the intent of the control measure to result in reduced service levels but CARB has not released specific proposals for the rule amendment at this time. However, CARB has discussed concepts for a proposed regulation, which includes consideration of near-zero emission buses as a transition to zero-emission buses.

Response to Comment 7-3:

San Joaquin Valley Air Pollution Control District has an adopted rule, Rule 9510, that is approved by U.S. EPA. Rule 9510 achieves emission reductions from development and re-development projects (e.g., residential, commercial, industrial). Under State law, as a nonattainment area, the SCAQMD must evaluate all feasible measures to determine if other areas have passed rules more stringent than our own to be adopted and implemented in the South Coast Air Basin and Coachella Valley. San Joaquin's Rule 9510 covers a broad sector of development projects and these project types will be evaluated through a public process.

As noted, a working group will be established to develop EGM-01 and we encourage participation. The intent of EGM-01 is to seek emission reductions through greater deployment of cleaner technologies and not restrict local government prerogatives with land use approvals.

Response to Comment 7-4:

The SCAQMD has been in discussions with CARB regarding implementation of the State Mobile Source Strategy. The emission reductions associated with the State Mobile Source Strategy are primarily the responsibility of CARB and U.S. EPA. For the "Further Deployment" measures, the SCAQMD has a shared responsibility to help implement the measures and incentive funding is one of the implementation components.

Staff has developed a Financial Incentive Funding Action Plan as a companion document to the 2016 AQMP. Staff will explore potential funding opportunities and will seek input from stakeholders and the public. Opportunities may include new sources of funding on the federal, state and local level. Staff does not intend for these measures to divert existing funds.

Response to Comment 7-5:

The "TBD" (to be determined) measures require further technical and feasibility evaluations and the attainment demonstration is not dependent on these measures. However, they are included in the AQMP as part of a comprehensive plan with all feasible measures in case there is a possible need for additional measures and a shortfall in reductions. As emission reductions are realized and to the extent that the

reductions can be SIP creditable, the reductions will be taken as part of future rate-of-progress reporting or as part of future AQMP revisions. For the SCAQMD TBD mobile source measures, emission reductions are accounted for under the CARB SIP Strategy so emission reductions are not listed to avoid overlap. These emission reductions will take place locally and will be determined when the programs, such as facility-based measures, are implemented.

Clarification of the TBD measures has been added in Chapter 4 of the Revised Draft Plan.

Comment Letter from Steve Milloy (Comment Letter #8)

Particulate Matter in Outdoor Air Is Not Associated With Mortality

By Steve Milloy MHS, JD, LLM
JunkScience.com

The Claim. Since the 1990s, the U.S. Environmental Protection Agency (EPA) and others have claimed that fine particulate matter in outdoor air (PM2.5) is associated with and causes death.

The EPA's position is that that:

- ANY inhalation of PM2.5 can cause death;
- Death from PM2.5 may occur within hours of inhalation (i.e., "short-term" or literally "sudden death") and that;
- Long-term (i.e., years or decades) exposure to PM2.5 can cause premature death.

EPA claims that natural and manmade PM2.5 causes as many as 500,000 deaths annually.[1]

In support its claim that PM2.5 kills, EPA points to "thousands" of epidemiologic (statistical studies of human populations), toxicologic (experiments on animals) and clinical (experiments on humans) studies.[2] EPA further claims that the agency's conclusions have been endorsed by its Clean Air Act Scientific Advisory Council (CASAC), a board of outside science advisors.[3] 8-1

Scientific Reality: PM2.5 does not kill anyone. The EPA's claims of PM2.5 lethality rank among the most nonsensical, fraudulent and readily disprovable scientific claims ever.

EPA's three bodies of research. EPA claims the PM2.5-mortality hypothesis is supported by existing epidemiology, toxicology and clinical studies. This is false.

- **Epidemiology.** EPA admitted in federal court that its epidemiologic studies on PM2.5 prove nothing by themselves. In 2012 litigation in which EPA attempted to justify its experiments on humans with PM2.5, EPA admitted doing the experiments because: "epidemiologic studies do not generally provide evidence of direct causation." The purpose of the human experiments, according to EPA, was to develop a medical or biological explanation (i.e., the direct causation) that would support the merely statistical (and, by the way, controversial) results of the PM2.5 epidemiology studies.[4]
- **Toxicology.** No laboratory animal has ever died from PM2.5 in an experimental setting — even though animals have been exposed to levels of PM2.5 as much as 100+ times greater than human exposures to PM2.5 in outdoor air.[5]
- **Clinical studies.** EPA has tested a variety of air pollutants — including very high exposures to PM2.5 — on over 6,000 human volunteers. Many of these volunteers were

elderly or already health-compromised — the very groups EPA claims are most susceptible to dying from PM2.5 exposures. EPA has admitted that there have been no deaths or any dangerous adverse events clearly caused by these PM2.5 exposures.[6] PM2.5 exposures in these experiments have been as high as 21 times greater than allowable by EPA's own air quality rules.

EPA's claim about PM2.5 causing death is not supported by the results from these research disciplines, individually or collectively.

Real-world evidence that PM2.5 does not cause sudden or long-term death. Everyone is constantly and unavoidably exposed to PM2.5 from both natural and manmade sources. Natural sources include dust, pollen, mold, pet dander, forest fires, sea spray and volcanoes. Manmade sources primarily are smoking, fossil fuel burning, industrial processes, wood stoves, fireplaces and indoor cooking. Indoor exposures to PM2.5 can easily exceed outdoor exposures — by as much as a factor of 100.[7]

Although EPA claims that almost 25% of annual U.S. deaths are caused by PM2.5, no death has ever been medically attributed to PM2.5.

Despite much research, there is no generally accepted medical or biological explanation for how PM2.5 could possibly cause death.

8-1
Con't

Much higher exposures to PM2.5 than exist even in the "worst" outdoor air are not associated with sudden death. The level of PM2.5 in average U.S. outdoor air — air that EPA claims can cause sudden death — is about 10 millionths of a gram (microgram) per cubic meter. In one day, a person breathing such air would inhale about 240 micrograms of PM2.5. In contrast, a cigarette smoker inhales approximately 10,000 to 40,000 micrograms of PM2.5 per cigarette.[8] A marijuana smoker inhales 3.5-4.5 times more PM2.5 — i.e., 35,000 to 180,000 micrograms of PM2.5.[9] Typical water pipe or "hookah" smokers inhale the equivalent PM2.5 of 100 cigarettes per session.[10] There is no example in published medical literature of these various types of short-term smoking causing sudden death despite the very high exposures to PM2.5.[11] Sudden death is also not associated with other high PM2.5 exposures and environments like mines,[12] indoor wood burning, smoking areas[13] or extremely poor quality urban air, for example, in Chinese cities.[14]

The EPA's claim that PM2.5 causes long-term death is grounded in two long-term epidemiologic studies: the "Harvard Six Cities' Study and the "American Cancer Society" (ACS) study. Both studies are controversial for many methodological reasons.[15] The controversy cannot be resolved as EPA refuses to release and/or refuses to compel release of key data used in the studies to independent researchers for purposes of re-analysis and replication.[16] For results to be considered to be scientifically credible, they must be capable of being independently replicated.

A large analysis of the recent daily air quality and daily death data from California for 2007-2010 reports no association between PM2.5 and death.[17]

Finally, if EPA really believed that PM2.5 was as deadly as the agency claims, then the agency would be legally and ethically compelled to stop conducting experiments in which human

subjects, including the elderly and health compromised, are made to inhale PM2.5 at levels up to 21 times higher than EPA air pollution standards allow.[18] The agency, however, has refused to cease conducting these experiments.[19]

8-1 Con't

But hasn't EPA's CASAC reviewed and approved EPA's claims about PM2.5 and death? As pointed out by House Space, Science and Technology Committee chairman Lamar Smith (R-Tex.), "The EPA's regulatory process today is a closed loop. The agency funds the scientific research it uses to support its regulations, and it picks the supposedly independent (but usually agency-funded) scientists to review it."[20] These "independent" reviewers are on the EPA payroll in amounts of tens of million of dollars.[21] EPA's refusal to make its key data available to the public and the obvious conflicts of interest render CASAC review not credible.

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[1] A summary of What EPA claims about the lethality of PM2.5, including links to original documents, is at: http://epahumantesting.com/the-most-toxic-substance-on-earth/. The 500,000 deaths estimate is on p. G-7 of the EPA's quantitative risk assessment for particulate matter, http://www.epa.gov/ttn/naaqs/standards/pm/data/PM_RA_FINAL_June_2010.pdf,

[2] http://www2.epa.gov/shttp://epahumantesting.com/the-most-toxic-substance-on-earth/. ites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf, p. 4-19.

[3] *Ibid.*

[4] https://junksciencecom.files.wordpress.com/2014/07/epa-memo-in-opp-to-tro-062614-copy.pdf

[5] http://www.epa.gov/ncea/pdfs/partmatt/Dec2009/PM_ISA_full.pdf,

[6] https://junksciencecom.files.wordpress.com/2014/06/epa-irb-app-6000-volunteers.pdf.

[7] http://www.epa.gov/air/basic.html.

[8] http://www.atsjournals.org/doi/full/10.1164/rccm.200802-334OC - .U7QmVhaHffg.

[9] http://www.drugscience.org/Petition/C2B.html,

[10] http://www.fic.nih.gov/News/GlobalHealthMatters/march-april-2014/Pages/nih-hookah-waterpipe-tobacco-smoking.aspx,

[11] http://www.washingtontimes.com/news/2012/nov/30/whats-epa-smoking/,

[12] http://www.msha.gov/S&HINFO/BlackLung/2011-172NIOSH.pdf,

[13] https://junksciencecom.files.wordpress.com/2014/07/hook-bar-pm-study.pdf,

[14] http://www.washingtontimes.com/news/2013/jan/22/chinas-bad-air-puts-the-lie-to-epa-scare-tactics/.

[15] http://www.foxnews.com/story/2001/02/02/epa-secret-science/.

[16] http://science.house.gov/press-release/smith-subpoenas-epa-s-secret-science,

[17] http://junkscience.com/2013/12/26/epa-air-pollution-scare-debunked-by-best-data-set-ever-assembled-on-particulate-matter-deaths/,

[18] http://www.washingtontimes.com/news/2012/apr/24/did-obamas-epa-relaunch-tuskegee-experiments/,

[19] http://www.washingtontimes.com/news/2013/feb/13/milloy-federal-judge-overturns-epa-human-experimen/,

[20] http://online.wsj.com/articles/lamar-smith-what-is-the-epa-hiding-from-the-public-1403563536.

[21] http://www.washingtontimes.com/news/2012/mar/7/clearing-the-air-on-the-epa/.

Responses to Comment Letter from Steve Milloy (JunkScience.com)
(Comment Letter #8)

Response to Comment 8-1:

The U.S. EPA is tasked with assessing new and emerging air quality science, including health studies, as part of the process of setting the federal air quality standards. This is an extensive, multi-year, public process that is described briefly in the Draft AQMP, Chapter 8. SCAQMD's role under the Clean Air Act is to develop and implement an emission reduction strategy that will bring the area into attainment in a timely manner.

The SCAQMD Board's current position is that the U.S. EPA has the primary role in assessing the science linking air pollutants and health effects. The U.S. EPA has concluded that both short-term and long-term exposure to PM2.5 cause mortality. It is then the role of SCAQMD to describe the public health impacts of poor air quality in our region, as well as to implement measures to attain the federal and state ambient air quality standards. It should be noted that the California Air Resources Board has also determined that there are significant mortality and morbidity effects from exposure to PM2.5.

More details on the U.S. EPA's review and causal determination for PM2.5 and mortality can be found in the U.S. EPA Integrated Science Assessment of Particulate Matter (74 FR 66353) and in Appendix I – Health Effects to this AQMP.

Comment Letter from HDL/GGS, Inc. (Snake змія 蛇) (Comment Letter #9)

From: Snake змія 蛇 <Snake@hdltd.com>
Sent: Friday, August 12, 2016 1:06 PM
To: Angela Kim
Subject: Totally Aerobic Nitrogen Cycle
Attachments: White Paper – The Hiatt 24Hr Totally Aerobic Nitrification Cycle.pdf

Importance: High

HDL/GGS,Inc PO 7475 Long Beach, California 90807 Snake@HDltd.com

I hold Patents on a **totally AEROBIC NITROGEN CYCLE**. Our method after primary scrubbing would capture NOx from industrial sources such as power plants, industrial boilers, cement kilns, and turbines and place the NOx into an aqueous solution. Then reduce the NOx into N2 and CO2. At the same time scale down hydrocarbons and VOC emissions. There are NO toxic gases such as H2S, SO2 or CH4 produced. Neither Gas is harmful to the environment. The N2 and CO2 may be captured and utilized for other manufacturing uses. 9-1

We have developed a registered fertilizer which increases plant growth between 25 to 1000 times faster. The CO2 uptake from the rapid growth allows the Carbon Cycle to accelerate and remove not only CO2 but other gases from the atmosphere as the plants perform respiration. I shall send the OMG Fertilizer files to the AQMD via email.

Respectfully submitted

Snake
562 428 9973

From: Snake змія 蛇 <Snake@hdltd.com>
Sent: Friday, August 12, 2016 2:21 PM
Subject: Plants and CHNO
Attachments: OMG Label 1 Gallon.docx

It was pleasurable conversing with you today.

These are the photos I promised using the OMG FERTILIZER. This is the label . Notice the NKP is very low before you dilute. At the end of this email is the CHNO which I know you will find very interesting. **It also reduces air pollution.** Shall also send my flyer on Jujitsu as promised Also a few more photos in following emails

Any questions, call 562 428 9973 M-F 0930-1700 PST

Respectfully submitted

Snake

Please click on the following link for more plant photos.

http://www.globalgreeningsolutions.com/data/VestigeElementsExperiments.pdf

1

Lime tree, brought in by a customer on Friday to "Just add water" First photo shows how it was upon arrival. Second photo was on the following Monday **four days later** after application of our fertilizer. MN

Right Photo before treatment. **Left photo taker week later after one treatment.** The flag pole was removed for painting. MN

Slawek's orange tree. Notice how bad the leaves are in the first photo to the left. NEW growth photo on the right two weeks after one application. Flourishing with good looking leaves.

This peach tree on the left appeared like this for two years. **Two months later** the photo on the right indicates the results with one application. CA

Trees at General Bottle in Los Angeles CA **All trees were 6 foot tall when planted.** This is a three year photo. The two large trees were treated only once. They also have been pruned 3 times because of their rapid growth. **Their trunk is 8 - 9 inches across** whereby the others are only 2 inches in D. The smaller trees now are between 7 - 8 feet

fertilizer and 1800 mg of Heavy Harvest, **three days later the one on the right has grown,**

Apricot Tree. **The fruit is on NEW growth** which occurred in November, not old growth as it should be. **Apricots clustered like grapes** and the fruit was larger, very sweet. CA

Photo taken in Canada whereby with Canadian government permit. I myself am against drugs. Client also sells to regular farmers but decided to send these photos to show growth patters in a short period of time. Both plants were like the one on the left. Treated with our

Peyton's tomatoes, Texas. 1 photo untreated 2nd 24 hours after treatment 3rd one week 4th 2 weeks

CHNO – A Fully Aerobic Denitrification System The Future in Green Technology

Global Greening Solutions

We founded Global Greening Solutions, Inc. because we fundamentally believe in a better, cleaner world for everyone. We think that, regardless of belief or political ideology, everyone in the world can immediately benefit from innovative, scalable, and *clean* ways to dispose of almost any type of waste - and we're not talking about landfills.

Global Greening solutions is a technology-focused company of people committed to developing and providing technologically-based solutions to several of our world's most vexing ecological challenges.

We think that our first product, CHNO, is a strong first step to fulfilling our vision.

CHNO Product Overview

CHNO is a Green Technology System that converts many types of waste into non-pathogenic composted materials safely in a matter of hours. Utilizing a proprietary process, these reduced materials are completely safe for disposal and

23

can be used as highly desirable organic fertilizers and compounds.

The incoming waste can contain the following materials:

- Food wastes
- Animal remains and body parts
- Manure
- Plastics
- Yard wastes
- Paper and cardboard
- Glass (<2% by weight)
- MSW (Municipal Solid Waste) i.e. Soil and rocks (< 2% by weight, up to golf ball size)
- Metal (light metal like tin/aluminum cans, <1% by weight)
- Construction waste (except bricks, cement blocks, asbestos, concrete)
- Hydro-carbons such as oil and fuels (requires pretreatment)

The system uses a proprietary process of accelerated bacterial, chemical and mechanical action to reduce the waste material into 3 main components:

24

- CO_2 & N_2 gas which can be discarded to the atmosphere or captured for sale.
- Mature organic compost ready for sale. The volume of this material is as little as 5-10% of the input waste material and the weight is only 15 to 50% depending on moisture content.
- Liquid effluent with <1% nitrogen content and rich in trace minerals which is safe to be discarded to sewer or processed into a high nitrogen fertilizer via an optional stage in the system.

Each of these components is ready for sale to a variety of customers after suitable packaging.

- The output solids (cake) are excellent compost material and can be sold to a variety of customers such as Home Depot for home gardeners or farmers or government areas for uses such as reforestation of burnt areas.
- The CO_2 and N_2 gas mixture can be captured and bottled for sale to facilities such as algae farms for bio-fuel.
- The excess effluent can be processed through an optional stage which elevates the nitrogen content from <1% to as high as 25%. This is a high quality organic fertilizer which is also rich in trace minerals. It is suitable for a large variety of customers from home gardeners, nurseries and farmers.

The system requires the following resources for operation:

- Electricity - (480 volts 3 phase + 220/110 1 phase) for running pumps, heaters and electronics
- Natural Gas/Propane - for heating
- Water
- Various standard and proprietary compounds to regulate and control bacterial action

The operation of the system is fully automated to minimize overhead. This includes:

25

- Stage to stage transfer and timing
- Dispensing of bacteria and other chemicals and agents
- Temperature control
- Disposal of excess effluent
- Conveyer movement

The loading station can have an option for 2 conveyer systems with a storage station in between. The first conveyer will move slowly to allow manual sorting. The second conveyer will move material quickly from the storage station into the Shredder Chute one load at a time.

The system can be constructed in a range of models with capacities suitable for large plants such as a waste transfer station and sewage plants, or operations such as live stock farms or slaughter houses. A small size model is also possible for rural homes and green enthusiasts as well as a mobile station for on demand remediation tasks. It can also be used for bio-remediation of aquatic or soil hydro-carbon contamination such as oil spills and fuel spills with simple pretreatment.

System Overview

CHNO consists of 3 stations. Each of these stations can be operated at the same time so that the input material is processed in a pipeline fashion. The production system will be mostly automated so as to streamline and optimize the processing capacity of the input material.

In the #1 station, material can be loaded through a chute that feeds the primary processor using a conveyer belt or skip loader. A variety of compounds can be automatically added to the vat based on various parameters that are automatically sensed to achieve optimal organic reaction of the material.

After the primary processing is completed in approximately 5-15 minutes, it is transferred to the #2 station automatically. This station basically prepares the input material with the correct parameters so that it is ready for processing in the next stage.

The #2 Station provides an environment in which all pathogens for compost and liquid fertilizer are destroyed and also optimizes that environment for accelerated bacteria action, which digests the input material and breaks it down into the 3 basic components. Chemistry is continuously monitored and adjusted automatically for optimal bacterial action. The combination of the mechanical, chemical and bacteria action serves to reduce the waste material to a small size and allows the bacteria to consume all the dead pathogens. The bacteria action produces N_2 (nitrogen) and CO_2 (carbon dioxide) gases without any sulfur gasses expelled. These are separated by a gas/water separator within the station and can be expelled to the atmosphere or captured and bottled for sale. Dwell time in this station is expected to be around 30 minutes. Our system will exceed government requirements to provide a safety margin for pathogen destruction.

The #3 station consists of a storage tank for the output of the broken down material, a dewaterer, and a storage tank for the separated effluent. The Storage Tank serves to receive the fully digested material from the #2 station quickly so as to free it for the next batch. The slurry in the storage tank is slowly fed to the dewaterer which separates the solids from the effluent. The solids are mature non-pathogenic compost and can be packaged for sale. The effluent is saved in another storage tank for reuse in the #1 station so as to minimize both water and energy usage for the #1 station. Excess effluent can be safely discarded into city sewage or processed for sale.

The system has an optional stage in the #3 station for processing the excess effluent into a high quality organic

fertilizer instead of discarding it to the sewer drain. This stage treats the effluent and allows the NKP levels to increase. This can elevate the available fertilizer content from <1% to as much as 25% depending on processing parameters. This makes it a high quality organic fertilizer without boosting. This stage is also fully automated so that processed effluent is accumulated in a fertilizer tank ready to be pump out.

Capacity

The system is composed of 3 modular components: #1 Station, #2 Station and #3 Station, with or without the Fertilizer Processing Option Each one of these components is currently targeted to process 25 tons of raw waste in a 10 hour day. For higher capacity applications, each of the stations can be replicated and connected such that each station can feed more than one down line station to provide redundancy and the ability to put any individual station offline for maintenance without disruption to the operation.

Resource Consumption

This system uses a proprietary chemical, mechanical and bacteria action to reduce the waste. This process requires the material to be mechanically processed and mixed with a fair amount of water. To minimize the consumption of water, this system is designed to recycle the output effluent so that water usage is required only for the first few loads.

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Current Status

Global Greening Solutions is a startup company currently in the process of obtaining first round financing. Conceptual and physical design is currently in progress. We plan to initially fabricate a scaled down version to serve as a prototype to demonstrate feasibility as well as a vehicle for demonstrations. It will not be fully automated as in the full scale production system. The capacity of this demo system is yet to be determined pending design progress. We are targeting it to be at once portable and can be operated independently with a generator.

Glossary of Acronyms

CO_2 Carbon Dioxide N_2 Nitrogen CHNO Carbon, Hydrogen, Nitrogen and Oxygen, the building block elements of all organics MSW Municipal Solid Waste NKP Nitrogen, Potassium and Phosphorous, the 3 main components in fertilizer

Closing

Use of the CHNO reduces landfills, air pollution, aquifer pollution and ground pollution with a payback of a resalable product. It can also be employed for sewage, soil and bio

Responses to Comment Letter from HDL/GGS, Inc. (Snake змія 蛇)
(Comment Letter #9)

Response to Comment 9-1:

Thank you for participating in the 2016 AQMP process and providing the NOx reduction technology information. Various technologies, including those provided, will be considered during the actual rulemaking process. Staff encourages interested parties to participate in the rulemaking process that will include working group meetings when ideas are shared and discussed for consideration in rule and incentive program development.

Comment Letter from Public Solar Power Coalition (Comment Letter #10)

From: Harvey Eder <harveyederpspc@yahoo.com>
Sent: Friday, August 12, 2016 5:29 PM
To: Jillian Wong; pfine@aqmp.gov; harveyederpspc@yahoo.com
Cc: harveyederpspc@yahoo.com; Jillian Wong
Subject: comments on nop ceqa aqmp 2016 by Harvey Eder for self & PSPC Public Solar Power Coalition 8/12/16 per MKrause phone 8/4/16 ITSC

Hello AQMP 2016 folks ie. Jillian Wong (Dr.) , Phil Fine (Dr.) and Mike Krause, 8/12/16

 August 12,2016 2:30 pm

Due to the cite in 10 2 and 10-3 in the June 30,2016 Draft Plan that says there has been a 30% increase
in ch4/methane over the last 10 years and the new 84, 86 gwp used by IPCC AR5 2013 I brought this up with Dr. Arron Katsenstein who chap 10 and is staff lead in Climate Change and GHG etc, the current number using radiative
forcing for 1800 (2016 is 1841ppb ch4) ppb is 274 ppm co2equivilent ch4 emissions in the atmosphere +- 10%
ch4 gwp over 20 yrs is 84,or 86 gwp compared to co2, plus ~100 ppm N2O co2 equilivent (using 300gwp for N2O)
pous 406 ppm co2 Totals to at least

10-1

co2 406 ppm
ch4 274 ppm co2e (+- 10%)
n2o ~100 ppm co2e (calcs needed)

Equals at least 780 ppm co2 now

Therefor what is needed is ITSC Immediate Total Solar Conversion the corredt best science numbers on co2e at over 2 times preindustrial co2 280 ppm co2 times 2 is 560 ppm co2e and 3 times 280 ppm co2 is 840
which is apx where we are now ! These numbers were not supposted to be fact until 2050 to 2100'
Its on now folks.

The entire record of my and PSPC record in and out of litigation is incorporated into the record herein in the CEQ!A nop etc and the Draft 2016 AQMP. Also incorporated into the

record herein as cited here by reference is the 2014 Jacobson et. al. Plan For Converting California to 80-85% solar renewables by 2030 or more and 100% by 2050 or sooner,,,,,California is the World lead in Solar Renewables not Germany anymore with its nucs (which is being phased
out after fukashema in Japan) and the coal plants /mines. The Federal CAA and Ca caa require solar cost effective
energy be implemented ie Deployed as cited inar5 chapt 8 "solar renewable energy " is cost effective now and has been
and is being "deployed". We must lead the usa and the world. I/We submitted the 8 reports to the Dist Advisory
Group with the US DOE May 18,2016 SunShot Documents including PV and CSP (Concentrated Solar Power) as well as Health benefits from solar etc and Fianceing Solar which can reduce solar by "30-60%", The origional PV andf CSP 2012 were in the State law wuit filed in January of 2013 etc the origional suit s were filed in 1992...

This is submission number 1 or many

Also since the Dist has ignored solar conversion and not covering ITSC Ithe alternative project in the CEQA Document EIR must be ITSC II as "expediously as practiable" like our Father and Mothers did in WW2 against
the Naziesw/Facists/ and Japan etc. we can and must to this now...

Either there has been a conspirancy or at best gross neglience to ignore solar most likely criminal""
It's now or never.....

Solarly,

Harvey Eder for self and for the PSPC Public Solar Coalition.
August 12,2016 as per K w/ Mr. Mike Krausde

The sun makes the wind blow , the water flow and the plants grow
It's the engine of our ecosystem
The Way The World Works.....

1223 Wilshire Blvd. #667
Santa Monica, CA. 90403
(310) 3932589

PS The little ditti is from cited in responce yo Dist Demur in lit 2013 . I was the first registerurd Environmental Studies Student at the University of California in the Fall of 1970 at UCSC with my Professor Dr. Richard Cooley who told me that its Solar Energy not appropriate or alernative energy or "clean energy " cause thats what you Dist call your Dirty Gas a Fossil Fuel which is against Ca Hand SC to Import into the state 88% of DG is imporated in Ca.breaking state law etc

Responses to Comment Letter from Public Solar Power Coalition
(Comment Letter #10)

Response to Comment 10-1:

The draft 2016 AQMP Chapter 10 – *Climate and Energy*, has a lengthy discussion on moving towards high levels of power from renewable resources. As mentioned in the title of several of the documents provided, there are many opportunities with solar renewable energy along with many challenges. A section within Chapter 10 titled, "Challenges and Opportunities in Moving Towards 100 Percent Renewable Power" discusses in detail many of these issues that are being addressed with the integration of renewables, implementing transportation onto the grid, and changing how the grid traditionally operates to accommodate renewables and new technologies. The transition to increasingly higher amounts of renewable energy is occurring rapidly, especially with the increasing renewable mandates established by the state. However, this transition to reliance on higher renewable generation needs to address the grid instabilities associated with variable and intermittent renewable generation. Otherwise, the addition of large of amounts of renewables creates an instable grid system that can increase the need and/or reliance on traditional fossil based power plants. Many of the documents provided in the above comment letter were reviewed and similar documents specific to California were referenced during the development of the draft 2016 AQMP Chapter 10. However, staff is unable to respond to "the entire of my and PSPC record in and out of litigation" since it is uncertain what documents are referred to.

Comment Letter from Loraine Lundquist (Comment Letter #11)

From: Loraine Lundquist [mailto:loraine.lundquist@gmail.com]
Sent: Saturday, August 13, 2016 10:53 PM
To: Public Advisor <publicadvisor@aqmd.gov>
Subject: we need a better clean air proposal

Dear AQMD,

I never realized until a recent data release from the American Thoracic Society, I never knew how many deaths were caused in our city from air pollution. Our city has nearly 5 times more deaths than New York, and the number of deaths rivals deaths from alcohol. 11-1

Given these realities, I am profoundly disappointed in the draft plan you've released for clean air. Why are you putting forward an unfunded proposal? Why are you abandoning strong, useful regulations? 11-1 Con't

Please don't give into corporate interests. Protect our community and our health by creating a real clean air plan with the teeth required to make real change.

thank you,
Loraine Lundquist
16908 Kinzie St.
Northridge, CA

Responses to Comment Letter from Loraine Lundquist
(Comment Letter #11)

Response to Comment 11-1:

The 2016 AQMP does not abandon any regulations and in fact proposes a number of regulatory measures aimed at reducing NOx and VOC emissions from a variety of stationary and mobile sources. These regulatory measures were established after a thorough analysis of all ozone-emitting sources and available methods and technologies to further reduce emissions. Incentive-based approaches are focused on accelerating high-emitting sources to transition to cleaner technologies sooner than would take place under regulations. Some sources are beyond the authority of the SCAQMD. Incentives are one way to gain emission reductions sooner than natural turnover of vehicles and equipment. Accelerating the deployment of cleaner technologies before future rulemaking is established allows the new technology to be commercially available, achieved in practice, feasible in more applications, cost effective, as well as publicly acceptable. The specific sources of funding have yet to be finalized, but staff has developed the Financial Incentive Funding Action Plan that maps out the possible opportunities to ensure the proposals have secured funding. Such funding is being sought on a federal, state and local level. To ensure the reductions are creditable in the SIP, the U.S. EPA does require these reductions to be quantifiable, surplus (beyond regulations), permanent and enforceable. With such integrity elements in place, the incentive actions can be effective and provide lasting improvements.

Comment Letter from Constance Hughes (Comment Letter #12)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

Please enter your contact information, comments and/or upload comment files below. The information collected may be used to provide further information about public workshops and hearings, and other events related to the 2016 AQMP. Responses to comment will be compiled and included in the final Plan package.

*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/15/2016	11:30 AM	2016

Commentor Contact Information

Commentor's Name *	Organization *	City	State	Zip Code
CONSTANCE HUGHES	NO AFFILIATION If not representing a specific organization, please enter "No Affiliation".	LAKE FOREST	CA	92630

Comments (Unlimted Size)

While I applaud AQMD effort to control air pollution, I am concerned that AQMD is primarily relying on incentive funds and encouragement (would that that approach might be enough). Our air quality is among some of the worst in the entire nation; we cannot achieve significant improvement without enforcement mechanisms. Such mechanisms need to be spelled out and absolutely clear to all. Penalties for violations need to be immediate--not a slap on the hand, wink wink. 12-1

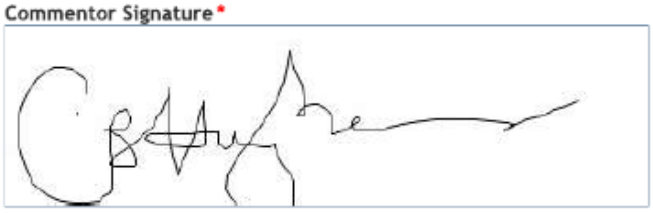
I urge AQMD to be more proactive and lead the nation in setting goals w/a plan to enforce it. Taxpayers should not bear all the financial responsibilities--major work calls for collaboration of all parties. 12-2

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *



For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

Responses to Comment Letter from Constance Hughes
(Comment Letter #12)

Response to Comment 12-1:

Please see Response to Comment 11-1 with regard to reliance on incentive measures and enforcement.

Response to Comment 12-2:

As noted in Response to Comment 11-1, staff is developing the Financial Incentive Funding Action Plan that maps out the possible opportunities to ensure the proposed measures are funded. Such funding is being sought on a federal, state and local level. Staff intends to create partnerships and align with existing programs such as energy efficiency and rebate offers. There is no intent for taxpayers to bear all financial responsibilities but depending on the source of the funding, taxpayers might be contributing to the program. For example, since mobile sources contribute by far the greatest amount of NOx, operators of mobile sources may contribute to the funding.

Comment Letter from Jacques Jougla (Comment Letter #13)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

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*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/15/2016	11:55 AM	2016

Commentor Contact Information

Commentor's Name*	Organization*	City	State	Zip Code
JACQUES JOUGLA	NO AFFILIATION If not representing a specific organization, please enter "No Affiliation".	CARPIN TERIA	CA	93013

Comments (Unlimted Size)

Regulations should not be cut. Giving companies leniency will allow them to choose the most cost effective strategy for transportation and energy production, which is often the worst possible option for the environment. Putting the requirement on the tax payer to offset the cost of utilizing environmentally friendly technologies is forcing billions out of the pockets of small business owners and families rather than out of the profit margins of the largest corporations. The idea of incentives is a good one in some cases, but terrible in others. Ethanol subsidies have cost tax payers billions to develop a fairly neutrally beneficial technology. Allowing the market to find the best solutions to technological problems on its own is essential and so are the regulations that keep our air clean. Please, do not rely on subsidies. Rely on quantitative restrictions on what can and cannot be allowed in out atmosphere. Thank you. -Jacques Jougla

13-1

13-2

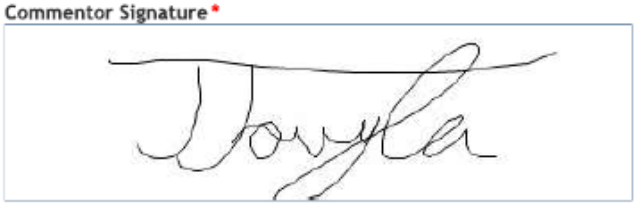
13-3

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature*



For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

Responses to Comment Letter from Jacques Jougla
(Comment Letter #13)

Response to Comment 13-1:

The 2016 AQMP does not cut any regulations. Please see Comment 11-1 with regard to the regulatory measures proposed in the 2016 AQMP.

Response to Comment 13-2:

Please see Comment 12-2 with regard to the taxpayer funding of the incentive-based measures.

Response to Comment 13-3:

There are a number of proposed measures in the 2016 AQMP that provide flexibility to comply and considers the importance of technology and new processes that are cost-effective and technologically feasible.

Comment Letter from Peter Burg (Comment Letter #14)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

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*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/15/2016	5:23 AM	2016

Commentor Contact Information

Commentor's Name *	Organization *	City	State	Zip Code
PETER BERG	NO AFFILIATION If not representing a specific organization, please enter "No Affiliation".	BURBANK	CA	

Comments (Unlimted Size)

I wanted to comment on the 2016 Air Quality Management Plan. I have some serious concerns about it and would like to see some major changes to the plan.

My biggest concern is regarding the reliance on Incentives to help reach our air quality goals. I do support incentives and think they can be effective to change the behaviors of industry, business, and citizens, I also feel that this plan is lacking in tougher regulations, which are even more important and needed than new incentives.

I firmly believe that most people and industries will not just change their polluting patterns unless there is a strong motivator to do so. An incentive can sometimes work if there are strong financial reasons to make a change. But in most cases, I would argue that it is not always Financially beneficial to reduce ones pollution. So for the good of all and for the public health, firm regulations must be implemented, to achieve our needed reductions in pollution. I feel the current and proposed rules are not strict enough. That is actually pretty obvious, with our failing grades for our air quality. We don't even meet the federal air quality levels on many days. That is shameful! 14-1

I am very dismayed by the fact that our air quality is still very poor and unhealthy in many cases. I believe it's our responsibility to do much more to reduce pollution. We are subjecting our children to air that is truly harming them. That is wrong and we should not rest until air quality is brought to healthy levels. I support stronger regulations, with corresponding stronger penalties for polluting our air. I truly feel that we can not reduce our harmful pollution without strong regulations and penalties. Incentives are again helpful, but not enough of a motavator (even if funding can be found for the amount of incentives needed to make our air healthy again) to bring the change we need.

I am glad to see stronger rules on Flaring. This is a horrible practice that should be stopped. It's inefficient and clearly a direct contributor to unhealthy pollutions levels here in California. It clearly can be reduced and thus will help us achieve cleaner air for all. I do think that mobile sources of pollution should be required to emit less pollution.. but stationary sources are a serious part of the problem as well. Fracking is another area that needs stronger mandatory regulations. Methane should be constantly monitored and leaks should not be allowed. This is an area where penalties would be needed... not incentives. 14-2

I was glad to see the report was quite detailed and it's clear that we know where many of the sources of air pollution are coming from. It's is now necessary to put in strong rules and penalties to reduce or eliminate those sources. To enact this plan as written, would be weak and shameful for the AQMD. You are here to protect the citizens from harmful pollution. We know we have a very serious problem on our hands and strong action must be taken. Relying on unfunded incentives would be a weak answer to this serious and life saving responsibility. You literally have the lives of the citizens in your hands, and the public is watching. Stand up and take steps to ensure the air gets cleaner for all of us. It's the reason your body even exists. Thank you.

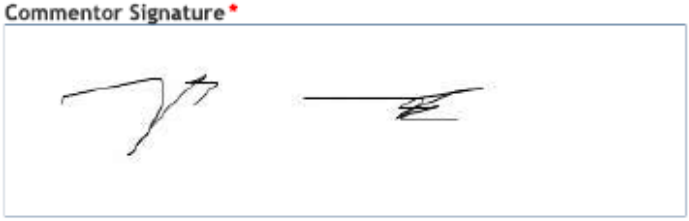
-Peter Berg

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *



Responses to Comment Letter from Peter Berg
(Comment Letter #14)

Response to Comment 14-1:

Please see Response to Comment 11-1 regarding proposed regulatory measures in the 2016 AQMP and the reason for the proposed incentive measures. Staff agrees that more work needs to be done to achieve healthy clean air communities and accomplish what is required under the Clean Air Act.

Response to Comment 14-2:

Staff appreciates the support of CMB-03 (Non-Refinery Flares) and will continue to adopt strong regulation on stationary and mobile sources. Staff also recognizes the need for sufficient penalties for those who violate air pollution rules.

Comment Letter from Consumer Specialty Products Association (Comment Letter #15)

CSPA
Representing Household & Institutional Products
Aerosol - Air Care - Cleaners - Polishes
Automotive Care - Antimicrobial - Pest Management

August 16, 2016 *via* electronic transmission

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Subject: CSPA Comments on Draft 2016 Air Quality Management Plan (June 2016)[1]

Dear Sir or Madam:

The Consumer Specialty Products Association (CSPA)[2] appreciates the opportunity to offer comments on the Draft 2016 Air Quality Management Plan (AQMP) dated June 2016. We understand that the South Coast Air Quality Management District (AQMD) intends to consider all comments received on this initial draft AQMP and release a revised draft in September for further comment, along with a response to previous comments in October, prior to releasing a draft final AQMP in November. The AQMD plans to adopt a final 2016 AQMP in December for subsequent approval by the California Air Resources Board (ARB), after which it will be combined with the 2016 State Strategy for submission to the U.S. Environmental Protection Agency (EPA) as an update to the California State Implementation Plan (SIP) for Ozone and $PM_{2.5}$. 15-1

CSPA has participated as an active stakeholder representing the consumer products industry in all of the California ozone SIP updates since the 1980s, and has worked cooperatively with ARB in the implementation of SIP measures seeking to reduce the emissions of volatile organic compounds (VOCs) from the use of consumer products in the state. Those efforts have resulted in more than 50% reduction in VOC emissions from consumer products during the past 25 years, which has contributed to the improvement in air quality throughout California.[3]

[1] Hereinafter referred to as "Draft 2016 AQMP." The full text of this document is posted on the AQMD website at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/Draft2016AQMP.

[2] CSPA is a voluntary, non-profit national trade association representing approximately 250 companies engaged in the manufacture, formulation, distribution, and sale of products for household, institutional, commercial and industrial use. CSPA member companies' wide range of products includes home, lawn and garden pesticides, antimicrobial products, air care products, automotive specialty products, detergents and cleaning products, polishes and floor maintenance products, and various types of aerosol products. Through its product stewardship program Product Care®, and scientific and business-to-business endeavors, CSPA provides its members a platform to effectively address issues regarding the health, safety, sustainability and environmental impacts of their products.

[3] ARB regulations have set VOC limits for 129 broad categories of consumer product; when fully effective, these regulations will reduce VOC emissions by about 50 percent compared to 1990 levels. *See* "Staff Report: Initial Statement of Reasons for Proposed Rulemaking Proposed Amendments to the

1667 K Street NW, Suite 300 | Washington, DC 20006 | www.cspa.org | 202-872-8110

The Draft 2016 AQMP relies primarily on NOx reductions to be obtained through measures outlined in the AQMP and in the ARB's 2016 Mobile Source Strategy. CSPA strongly supports this aspect of the AQMP as consistent with compelling scientific evidence that NOx reductions are the best strategy, indeed the only strategy that can provide significant further reductions in ambient ozone, ambient $PM_{2.5}$, and greenhouse gas (GHG) emissions in the South Coast Air Basin (SCAB or Basin) and elsewhere in California. The AQMP seeks to obtain 43% additional NOx reductions by 2023, and an additional 55% NOx reductions by 2031 in the Basin.[4] In all, the AQMP and ARB's Mobile Source Strategy seeks to obtain 80% reduction in ozone and PM precursors (NOx and VOCs), 45% reduction in GHG emissions, 50% reduction in petroleum usage, and 45% reduction in diesel PM emissions in the state.[5] The Draft AQMP and State Strategy are based on modeling that demonstrate that these levels of reductions are sufficient to meet the relevant federal ozone and $PM_{2.5}$ standards.

15-1 Con't

The Draft 2016 AQMP includes numerous measures proposed to be adopted by AQMD that, together with reductions from the 2016 State Strategy, will obtain the NOx reductions required. These measures include many that provide VOC reductions along with the NOx reductions that are their primary goal. However, the Draft 2016 AQMP also includes one single new control measure to further reduce VOCs from formulated products used by commercial facilities. The measure is described as follows:

> **CTS-01 – FURTHER EMISSION REDUCTIONS FROM COATINGS, SOLVENTS, ADHESIVES, AND SEALANTS:** This control measure seeks limited VOC emission reductions by focusing on select coating, adhesive, solvent and sealant categories by further limiting the allowable VOC content in formulations or incentivizing the use of super-compliant technologies. Examples of the categories to be considered include, but are not limited to, coatings used in aerospace applications, adhesives used in a variety of sealing applications, solvents for graffiti abatement activities. Reductions could be achieved by lowering the VOC content of a few categories within SCAQMD source-specific Rules 1113, 1124, 1144, 1168, and 1171 where possible, especially where the majority of products already meet lower limits. For solvents, reductions could be achieved by promoting the use of alternative low-VOC products or non-VOC product/equipment at industrial facilities. The tightening of regulatory exemptions can also lead to reduced emissions across multiple use categories.[6]

15-2

CTS-01 would include rules adopted in 2017-2021 and implemented in 2020-2031 that would be required to obtain a total of one ton-per-day of VOC reductions in the district by 2023 and two tons-per-day by 2031.[7] While CSPA recognizes the need to consider all emission sources, we will express concerns in these comments regarding the need to include new measures targeting further VOC emission reductions from sources not associated with NOx emissions. Information provided throughout the 2016 AQMP as well as the 2016 State Strategy make it very clear that

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Antiperspirants and Deodorants Regulation, the Consumer Products Regulation, the Aerosol Coating Products Regulation, the Tables of MIR Values, Test Method 310, and Proposed Repeal of the Hairspray Credit Program" (August 7, 2013) at Executive Summary–2.

[4] Draft 2016 AQMP at p. ES-2.

[5] Proposed 2016 State Strategy at p. 2.

[6] Draft 2016 AQMP at p. 4-19.

[7] Draft 2016 AQMP at p. 4-12.

there is no need for further VOC reductions (beyond those obtained through implementation of NOx controls) for maintaining the ozone and $PM_{2.5}$ standards in South Coast or elsewhere in California. We therefore urge that CTS-01 be removed from this AQMP.

15-2 Con't

In the following sections, we will comment on various specific sections of the Draft 2016 AQMP.

Chapter 1

This chapter provides an excellent overview of the successful history of SCAQMD and ARB efforts to improve air quality in the South Coast. CSPA and the consumer products industry is proud to have played a role in helping achieve this improved air quality through reducing VOC emissions from consumer products by more than 50% over the past 25 years.

Nevertheless, the period when further reductions in low-reactivity VOCs such as those in consumer and commercial products will further lower ozone formation is now past, as we documented at great length to the ARB in response to their Proposed 2016 State Strategy.[8] We therefore recommend that AQMD take this opportunity to reconsider the need for all VOC reduction measures not associated with NOx reductions in this AQMP, and also reconsider the necessity of the measures from the 2012 AQMP whose rulemakings have not been completed (including CTS-02 and CTS-03).[9]

15-3

Among the White Papers noted in this chapter[10] is the VOC Controls White Paper, which provides cogent evidence that VOC emission reductions have a very minor role to play in ozone attainment strategies in the South Coast. Indeed, the only need for further VOC reductions is in the short term to prevent modest increases in ozone formation in west Los Angeles, and CSPA believes that these reductions are best obtained by the reductions in high-reactivity VOCs obtained by measures in this AQMP and the ARB State Strategy that are primarily focused on NOx reduction.

Chapter 3

The tables of VOC and NOx emissions per source category in this chapter show consumer products as among the largest VOC emission sources in the base year of 2012. It is important to understand, however, that the very low reactivity VOC emissions from consumer products did not have a significant impact on ozone formation even in 2012, and are having a diminishing impact as NOx emissions are reduced and air quality improves. By the time South Coast is in attainment of the 75 ppb ozone standard, the region will be "NOx-limited" and consumer product and other low-reactivity VOC emissions will have virtually no impact on ozone formation.

15-4

Chapter 4 and Appendix IV-A

The description in the State and Federal Control Measures section[11] cites reductions to be obtained from the Proposed 2016 State Strategy for the SIP that was released for comment on

15-5

[8] *See* CSPA Comments to ARB on the Proposed 2016 State Strategy, dated July 6, 2016; available on request.

[9] Draft 2016 AQMP at p. 1-13.

[10] Draft 2016 AQMP at pp. 1-15 to 1-17.

[11] Draft 2016 AQMP at p. 4-28 to 4-30.

May 17, 2016. That proposed state strategy includes for the South Coast 107 tons-per-day in NOx by 2023, and 97 additional tons-per-day NOx reductions by 2031. The proposed state strategy also includes 48 tons-per-day VOC reductions by 2023 and an additional 60 tons-per-day VOC reductions by 2031, with almost all of those VOC reductions coming from the same measures whose primary goal are NOx reductions. The lone exception is the 5 tons-per-day from the Consumer Products Program measure, which CSPA believes is unnecessary for attainment of federal and state air quality standards, and therefore outside of state authority to regulate. This was documented in some detail in CSPA's comments to the ARB last month.[12] We believe that there is clear evidence in the VOC Controls White Paper and this Draft 2016 AQMP as well that those 5 tons-per-day in VOC emissions by 2031 would not contribute to ozone attainment in South Coast.

Table 4-2 lists a significant number of proposed stationary source measures aimed at NOx reductions, and some of those measures also have corresponding VOC reductions associated with them. These measures are further detailed in Appendix IV-A. CSPA concurs that these measures, if feasible, could contribute to ozone and $PM_{2.5}$ attainment, and in some cases might help provide the small short term VOC reductions needed to prevent temporary ozone increases in west Los Angeles as NOx is further reduced. The final three measures—FUG-01, CTS-01 and FLX-02—were identified as means to achieve limited, strategic VOC controls. CSPA are in agreement that VOC controls should be limited and strategic, and that efforts should be made to apply the latest advances in technology to detect and minimize VOC emissions. However, given that these measures have no associated NOx reductions, and are unlikely to contribute significantly to attainment, specific emissions reductions should be delayed until both feasibility (*e.g.*, the use of new technology like LDAR under Phase I of FUG-01) and necessity have been demonstrated. We therefore recommend that the reductions targeted for these VOC-only measures be eliminated from the AQMP.

15-5 Con't

Specifically, in Appendix IV-A the description of CTS-01, which seeks "Further Emission Reductions From Coatings, Solvents, Adhesives and Sealants" cites the VOC Controls White Paper (released in 2015) and professes a need for modest additional VOC controls to "help avoid temporary increases in ozone concentrations in the western side of the Basin."[13] However, the description fails to provide any reason to believe that further reductions in these low-reactivity VOCs would actually help in this regard, or why the high-reactivity VOC reductions associated with NOx measures would not be sufficient for that purpose. The description goes on to note other recommendations from the White Paper, including that VOC reductions should be favored that gain those reductions as co-benefits from NOx, greenhouse gas, and air toxics control measures, but does not justify why this and two other measures are proposed that are not consistent with that policy goal.

The proposed method of control for CTS-01 is proposed to be achieved by closing loopholes and lowering VOC content for a select few categories where most products already meet lower VOC limits. However, without defining which loopholes and categories are under question, it is not feasible to know whether such measures would contribute measurably toward meeting the AQMP objectives, nor can the cost-effectiveness--ranking third—be independently assessed.

[12] *See* CSPA Comments to ARB on the Proposed 2016 State Strategy, dated July 6, 2016; available on request.

[13] Draft 2016 AQMP, Appendix IV-A at p.IV-A-85.

Until these specifics are defined, CSPA recommends that the cost-effectiveness estimate be revised to be "TBD," consistent with other measures.

CSPA once again recommends that AQMD remove all VOC-only reduction targets from this AQMP, and rely on co-benefits from other measures to obtain the short-term VOC reductions needed to avoid temporary ozone increases. In particular, CSPA recommends that the rulemaking to amend Rule 1168 on adhesive and sealant applications remain indefinitely suspended. 15-5 Con't

Chapter 5 and Chapter 8

These chapters include a "first look" at what additional reductions will be needed to attain the 70 ppb 2015 ozone standard by 2037, concluding that NOx emissions in the South Coast will need to be reduced from the 100 tons-per-day (needed for the 75 ppb standard) to 75 tons-per-day.[14] There is no mention of any need for further VOC reductions. We believe that this result is consistent with the attainment modeling results we have seen to date, since the region will remain NOx-limited throughout that period. 15-6

Chapter 6

The cost-effectiveness assessment of stationary source measures estimates that CTS-01, which only targets VOC emissions for reduction, would be the fourth most cost-effective measure in terms of cost per ton of emission reduced. We believe that this is misleading, since the associated VOC reductions would have essentially no impact on ozone reduction. CSPA believes that the appropriate and most relevant form for estimating cost effectiveness should be the cost for a given improvement in air quality. In this case, the cost effectiveness would be estimated in terms of cost per ozone reduction, which would rank CTS-01 and other VOC control measures far lower in cost effectiveness. Furthermore, it is also misleading to provide a cost estimate given that the mechanisms by which further reductions could be accomplished have not yet been defined. 15-7

Appendix III

The baseline and future-year inventories shown here estimate that consumer products will grow from 20% of VOC emissions in 2012 to 29% in 2031.[15] This result is caused primarily by the continued reductions of high-reactivity VOCs associated with already-adopted measures aimed at NOx whose reductions are being phased in during that period. This should not be interpreted to indicate that consumer product VOC emissions are contributing an increasing amount to ozone formation. The low-reactivity VOCs in consumer products had little or no impact on ozone formation in 2012, and that impact will only be further decreasing during future years. 15-8

Appendix IV-B

ARB's Mobile Source Strategy for South Coast as described at length in this appendix would provide South Coast 81% reduction in NOx emissions from on-road and off-road measures.[16] In 15-9

[14] Draft 2016 AQMP at p. 5-28 and pp. 8-3 to 8-5.

[15] Draft 2016 AQMP, Appendix III at p. III-2-57 and p. III-2-69.

[16] Draft 2016 AQMP, Appendix IV-B at p. IV-B-5.

addition, the state strategy would supply 48 tons-per-day in additional ROG (VOC) emissions by 2023 and 55 additional tons-per-day by 2031 from those on-road and off-road measures.[17] CSPA believes that that those high-reactivity ROG/VOC reductions alone are more than sufficient to prevent any temporary increases in ozone in the western basin. 15-9

Appendix V

This appendix on the results of South Coast attainment modeling has not been posted for review. CSPA will review this information and file supplemental comments when Appendix V becomes available. 15-10

Summary and Conclusions

CSPA appreciates the opportunity to comment on this Draft 2016 AQMP. In these comments we are recommending that the measure CTS-01 and other measures not associated with NOx reductions be removed from the AQMP, since those measures have not been shown to be necessary for attainment of the air quality standards that are the purpose of the AQMP. If you have any questions, please contact us at (202) 872-8110.

Respectfully submitted,

D. Douglas Fratz
Senior Science Fellow

Joseph T. Yost
Senior Director, Strategic Issues Advocacy

Kristin Power
Vice President, State Affairs

Steven Bennett, Ph.D.
Senior Director, Scientific Affairs & Sustainability

cc: CSPA Air Quality Committee and Task Forces

[17] Draft 2016 AQMP, Appendix IV-B at p. IV-B-9.

Responses to Comment Letter from Consumer Specialty Products Association (CSPA)
(Comment Letter #15)

Response to Comment 15-1:

Staff appreciates the commenter for being an active stakeholder for past decades and cooperating with SCAQMD and CARB in implementing ozone SIP measures to reduce VOCs from consumer products.

Response to Comment 15-2

Volatile organic compounds (VOCs) contribute to ozone formation and PM2.5 levels through secondary organic aerosols. The Basin does not currently meet federal and State standards for ozone and PM2.5.

The modeling analysis suggests that approximately 55 percent NOx reduction is needed in 2031 to meet the 75 ppb ozone standard. The reduction is beyond the projected baseline, which reflects reductions due to already adopted measures. Still, on the course to attainment, if the AQMP were to rely on NOx reductions alone, certain parts of the western Basin surrounding central Los Angeles are expected to experience inadvertent increases in ozone concentration. VOC reductions, whether they are concurrent reductions from the NOx strategy or result from stand-alone controls such as the consumer products program, should be achieved, if not avoid completely, the inadvertent increase of ozone. Several million people are estimated to be subject to this inadvertent increase of ozone. Also, VOC is effective for meeting the 1-hour ozone standard.

While some PM2.5 is emitted directly from sources, the majority of ambient PM2.5 in certain parts of the Basin is from gas to particle formation in the atmosphere. The secondary organic particulate formation results largely from atmospheric reactions on VOCs. In order to develop an effective control strategy, one must consider the composition and by extension, the sources of PM2.5 in the Basin. In the Basin, approximately 30 to 50 percent of the PM2.5 mass is composed of organic compounds. Therefore, a VOC and NOx combined strategy would aid in mitigating interim increases in ozone, especially in the highly populated western side of the Basin, while potentially providing additional benefits for PM2.5, toxics, and greenhouse gases. A control strategy that focuses primarily on NOx reductions, with additional strategic and cost-effective VOC reductions, is the most desirable way to minimize the general public's exposure to unhealthy ozone pollution not only in the target attainment year, but also during the course of the control effort. Strategic VOC reductions will be developed in the most economically feasible way including VOC reactivity to yield ozone and PM2.5 formation potential.

Response to Comment 15-3:

Please see Response to Comment 15-2 with regard to the need for further VOC reductions.

Response to Comment 15-4:

Different chemical reactions are responsible for the formation of ozone and secondary organic aerosols (SOAs) from volatile organic compounds (VOCs). Since both ozone and PM2.5 formation are largely dominated by atmospheric reactions, we must consider the potential for a VOC to contribute to both ozone and PM2.5 levels. Organic compounds with large ozone formation potentials may or may not contribute significantly to PM2.5 mass. Similarly, many gaseous organic compounds classified as VOCs, intermediate-VOCs (IVOCs), or Semi-VOCs (SVOCs) that contribute to SOA may or may not play a significant role in the formation of ozone.

Therefore, a VOC and NOx combined strategy would aid in mitigating interim increases in ozone, especially in the highly populated western side of the Basin, while potentially providing additional benefits for PM2.5, toxics, and greenhouse gases. A control strategy that focuses primarily on NOx reductions, with additional strategic and cost-effective VOC reductions, is the most desirable way to minimize the general public's exposure to unhealthy ozone pollution not only in the target attainment year, but also during the course of the control effort.

Response to Comment 15-5:

Please see Response to Comment 15-2 regarding VOC controls in FUG-01, CTS-01, and FLX-02 measures.

The chemical reactions that form ozone are highly complex and depend not only on NOx and VOC levels, but also on the ratio of VOC to NOx concentrations. NOx emissions can even reduce ozone concentrations in the immediate vicinity of an emission source, but will contribute to more ozone formation downwind. A decrease in ambient VOC concentrations generally leads to a decrease in ozone. However, because of the complex chemistry involved, a decrease in NOx concentrations may lead to a decrease or an increase in ambient ozone depending on the local VOC concentration. The local VOC concentration is a mixture of many distinct compounds, each with unique impacts on ozone formation. This complex dependence on NOx and VOC concentrations leads to interesting policy implications, which can be explored using comprehensive air quality models.

The Community Multiscale Air Quality (CMAQ) model has been used to investigate the ozone concentrations as a result of various levels of VOC and NOx emissions under different control strategies. The CMAQ model, which is the U.S. EPA recommended regulatory model, is considered the preeminent, state-of-the-science air quality model for analyzing air quality improvement strategies. Since ozone concentrations are a complex function of both NOx and VOCs concentrations, we use a three-dimensional plot to visualize this dependency. The Empirical Kinetics Modeling Approach (EKMA) ozone "isopleths" diagrams illustrate the outcomes of this complicated chemistry.

The modeling analysis suggests that approximately 55 percent NOx reduction is needed in 2031 to meet the 75 ppb ozone standard. The reduction is beyond the projected baseline, which reflects reductions due to already adopted measures. Still, if the AQMP were to rely solely on NOx reductions on the course to attainment, certain parts of the western Basin surrounding central Los Angeles are expected to experience inadvertent increase in ozone concentration. VOC reductions, whether they are concurrent reductions from NOx strategy or resulted from stand-alone control such as the consumer products program, should reduce, if not avoid completely, the inadvertent increase of ozone in the western side of the Basin where millions of people may be subject to the exposure. Geographical location of such VOC sources that are subject to the strategic VOC controls are an important consideration to develop VOC control measures to minimize such inadvertent exposure.

In addition, CTS-01 does contribute toward the AQMP objectives since VOC reductions are one of the AQMP objectives. Cost effectiveness is assessed by comparing the control measure costs to VOC reductions, not ozone reductions.

Response to Comment 15-6:

Please see Response to Comment 15-2 with regard to the need for additional VOC reductions.

Response to Comment 15-7:

Please see Responses to Comments 15-2 and 15-5 regarding cost-effectiveness of CTS-01 and associated VOC reductions. Additionally, the majority of the VOC emission reductions are projected to come from continuing the Rule 1168 amendment that was suspended in 2014.

Response to Comment 15-8:

Please see Response to Comment 15-2 regarding the impact of VOC emissions on ozone formation. The increased percentage of VOC emissions shows that consumer products play a significant role in ozone formation and should be at the forefront when considering further VOC reductions. In addition, given that the VOC emissions associated with consumer products occur in densely populated urban centers, the ozone and PM2.5 formed from the VOCs, even if they have low reactivity, still increase the level of exposure to millions of population, therefore, the strategic but limited VOC reductions are still needed and included in the AQMP.

Response to Comment 15-9:

Simulations with incremental VOC and NOx emission reductions from 2023 and 2031 baseline emissions were generated to create ozone isopleths for each station in the Basin. The ozone isopleths provide guidance in developing control strategies by depicting ozone concentrations as a function of both NOx and VOC reductions. They provide the basis for estimating the Basin carrying capacity and the maximum allowable emissions of NOx and VOC to reach attainment. Both 2023 and 2031 baseline scenarios without any additional reduction beyond already adopted measures do not lead to attainment, indicating additional emission reductions are necessary to meet the standards. Additional limited VOC reductions will avoid any increases in western Basin ozone exposure above the 2023 attainment target. A "weekend effect", typically experienced in urban areas, results from reduced NOx emissions on weekends leading to higher ozone and consequently more weekend days exceeding the standard. This indicates a benefit of VOC reductions to minimize inadvertent ozone increases during the course of NOx reduction. In addition, the weekend effect is stronger in the western part of the Basin. Given that the majority of the VOC emissions from consumer products are located in urban population center, the emission reductions on that category provides significant benefit to reduce ozone and PM2.5 exposure despite of the low reactivity.

In addition, the model demonstrated that the 2022 one-hour ozone standard is sensitive to VOC reductions; therefore, early VOC reductions are crucial for reaching attainment.

Response to Comment 15-10:

Please see Response to Comment 15-2 with regard to the need for CTS-01 and other VOC measures not associated with NOx reductions.

Comment Letter from Julie Stoll (Comment Letter #16)

From: Julie Stoll [mailto:jeffersonstoll@hotmail.com]
Sent: Tuesday, August 16, 2016 4:10 PM
To: Public Advisor <publicadvisor@aqmd.gov>
Subject: Clean Air Plan

SCAQMD:

It is absolutely imperative that your agency address the appalling air pollution levels in Southern California. Therefore, I would like to commend you for drafting a plan to clean our dirty Southern California Air. However, the plan is lacking is several areas. 16-1

The main problem with CalARP plan is that it does not require big polluters like refineries to do anything. Rather, the language seems to just encourage refineries to make important, safer changes. I would like to see requirements imposed and enforced on refineries. They make billions of dollars of profits, yet are not held accountable for air pollution.

One issue that is of particular importance to those who work or reside in Torrance is the fact that the Torrance Refining Company uses hydrofluoric acid (they call it modified, however there is only a 10% additive). This absolutely must be banned. The language in the plan should clearly ban it with absolutely no way for the refinery to continue using this deadly substance that could kill thousands. 16-2

Speaking as a representative of what many other citizens are feeling, we are fed up. I am seriously considering moving away. The days where refineries heavily influence agencies like yours because of the money they acquire endangering our lives must end. Please stand up for what is right. Impose strict regulations on refineries - especially refineries that operate in densely populated areas like Torrance.

Sincerely,
Julie Stoll

Responses to Comment Letter from Julie Stoll
(Comment Letter #16)

Response to Comment 16-1:

The December 2015 amendments to the RECLAIM program established a NOx RECLAIM Trading Credit (RTC) allocation shave of 56 percent to the largest emitters in the program, which include the refineries. This reduction in allocations will result in the installation of the Best Available Retrofit Control Technology (BARCT) at most of these facilities. Otherwise, these facilities will be in violation of SCAQMD rules for having their emissions exceed their allocations.

Response to Comment 16-2:

The SCAQMD recognizes the potential hazards of using HF at refineries. It is used as an alkylating agent to boost the octane of gasoline. An alkylation technology study was conducted by Norton Engineering Consultants and the final report was completed on September 9, 2016. This report looked at possible alternative technologies for the use of HF at refineries, and it was determined that the most viable and commercially available option is sulfuric acid alkylation. Although this method is commercially available, there has not been any documented conversion of an alkylation unit from HF to sulfuric acid. There are also inherent risks in the transportation of concentrated sulfuric acid, and such a conversion would cost in the $100 million dollar range. Another alternative that was identified was solid acid alkylation and the costs for conversion were estimated to also be in the $100 million dollar range. Hydrofluoric acid is not a precursor to ozone or PM2.5 so there are no control measures for it in the AQMP. However, the SCAQMDS's Rule Forecast Report (Agenda Item 19 from the December 2, 2016 Governing Board agenda) lists a potential rulemaking applying to the use of hydrogen fluoride at refineries, tentatively scheduled for December 2017.

Comment Letter from Stephanie Pincetl (UCLA) (Comment Letter #17)

Stephanie Pincetl
Professor in Residence
UCLA Institute of the Environment and Sustainability
(attribution for information only)

August 16, 2016

Air Quality Management Plan Draft 2016.
South Coast Air Quality Management District

Comments on Chapters Four and Ten

Chapter Four: Control Strategy and Implementation.

Chapter Four provides insight into the AQMD proposed path to achieving emission reductions to meet air quality goals. The most prevalent strategy is to provide incentive funding and supporting infrastructure.

Comments on Incentive funding
Incentive funding is an alternative to setting command and control standards and imposing fines for non-compliance. Often the two strategies are coupled, and/or can be coupled to ensure best implementation of change, ensuring that smaller businesses, companies that are less well capitalized or other entities are provided sufficient assistance so they can implement change. This approach does not seem to be what is present in the AQMD, rather all entities are treated similarly and encouraged to access incentives.

For incentive funding to be viable the following are necessary:

- High levels of funding by the regulator
- High levels of staffing to implement
- Knowledgeable staff to ensure no fraud
- Full customer information
    - Strong outreach and education
    - Nondiscriminatory rules and regulations (e.g. ability of small undercapitalized entities to access funding)
    - Regional networks
- Straightforward, flexible and easy access to the funding
- Level playing field
- Sufficient funding to make programs worthwhile for the customer of the incentive
- Tracking implementation
- Tracking savings

Often one of more of these necessary attributes for incentive programs are absent, and programs fail. Incentive programs also suffer due to requirements for recipients to have certain types of credit to qualify, and/or ability to repay, a way to protect the incentive-provider but

17-1

1

which can discourage participation. If there are intermediaries who handle the programs, they may also have requirements. The burden of obtaining an incentive can be quite high.

Further incentive programs put the burden on the public to be knowledgeable and to be proactive. This is a cost that is rarely included in cost/benefit assessments.

Neither the report nor the appendices provide detail amount of funding to be available, exact programs and funding for each. There does not seem to be a prioritization scheme for who gets the funding, nor mechanisms to ensure fairness among sectors and sizes of market participants in sectors.

No quantification of potential savings that could accrue by sector, nor penetration needed for the potential savings. No cost estimates for achieving significant penetration.

17-1 Con't

Specific Comments
Pg. 4-6
Why is it unfair that stationary sources should bear "fair-share" since AQMD has most jurisdiction over stationary sources. This is not explained. What is the basis for fairness?

17-2

4-8
If NOx is one of the major air quality issues in the region relative to attaining the federal ozone standards, reliance on more natural gas (instead of diesel), simply pushes the problem off into the future, natural gas still pollutes. Using natural gas as an ozone and NOx emissions reductions strategy reinforces an infrastructure that will create path dependencies and lock-in, involving large costs to unravel in a renewable electricity future. Those interests who invested in natural gas will resist the change and it will involve losses for those interests. The Plan creates a pathway that will costly to shift in the future.
Further, while it is true that natural gas emits less CO2 and NOx, this does not take into account supply chain emissions. While AQMD's purview is air quality in the basin, climate impacts of drilling and extraction of natural gas from wells and its transportation in pipelines (as well as leaks as with Aliso Canyon) contribute substantially to emissions that are climate changing. Thus AQMD should add the supply chain emissions in its analysis of natural gas, as the basin is impacted by global GHG and methane emissions

17-3

4-9
Measures are cast as costs; there are no benefits discussed. Health benefits are a major driver of the new ozone standard. While there is a mention of negative public health consequences from failure to meet air quality standards, improving public health is a major benefit thus transitioning to cleaner transportation technologies will also have significant benefits, not just costs. The paragraph should also acknowledge that any mitigation of climate change is a benefit for the region.

17-4

Tables 4-2 on 4-10 & 4-11
Very difficult to know what is going to be done.

17-5

For existing buildings there is no data base that tracks energy efficiency program effectiveness other than by using modeled, sampled or self-reported data. This means that the rebound effect is rarely captured, and, at the same time, the modeled savings are very modest, as the **Technical Appendix IV-A-31** shows. The UCLA Energy Atlas (www.energyatlas.ucla.edu), shows, for example, a significant rebound effect in new residences in wealthy areas. While very efficient per square foot of new construction, per capita energy consumption in Malibu, for example, is ten times greater than that of residents in South Los Angeles. Relying on energy efficiency investments will likely not be enough to reduce total consumption.
The deployment of EE programs to date have not been systematic, have not been data driven, rely on customers to know about the program, be willing to fill out arcane paperwork, and to pay a portion of the retrofit – whether for weatherization, or a refrigerator. (Have you looked at Gas Company rebates? $75/50 for a clothes washer, $200/150 for a tankless water heater, $0.15/sq.ft. for insulation, not to mention the restrictions: -- existing insulation must be R-11 or less. The final insulation level must be R-38 or R-19 if there is less than 24 inches of attic clearance, and so on). Realistically, this strategy will not yield the kinds of turn-over of the building stock to more savings that is needed, the rebate programs are complex to access and qualify for, and the rebate amounts are too small for widespread transformation.

17-6

No state agency currently has sufficient data to determine energy use by buildings across AQMD territory, nor the actual implementation effectiveness of past EE programs by the utilities. Thus it is not possible to know hot-spots of energy inefficiency, the rebound effect, as mentioned earlier, nor what programs have worked where. It is strongly recommended that the agency avail itself of data driven analytics such as the UCLA Energy Atlas. As IV-A-27 states, 64 % of residential structures were built before 1979, these are where the savings will be. Since 48% of the residential properties are occupied by tenants, there also must be concerted new ways to target landlords. I suggest that there a requirement for energy upgrades for the renewal of any permit tied to rental properties. If the landlord cannot afford the upgrade then they can apply for a rebate, but all rental properties must upgrade.

In addition, the co-benefits from existing residential and commercial building energy efficiency measures and possible additional ones need to be explained (they are implicit in table 4-2, but could be made more clear).

Cool roofs should be mandatory and dark colored roofs forbidden in all zones of the region as well as for retrofits and all reroofing. The easiest strategy would be to forbid suppliers of roofing to carry dark colored roofing materials and to require solar reflectance of all roofing materials, a similar strategy as AWMD employed for low to zero VOC paints. It is useful to remember that at first the requirement for low flush toilets was seen as intrusive and was opposed; today they have been normalized.

Please define near-zero emissions.

Business Case for Clean Air Strategies

Shifting from the status quo to other technologies, practices and methods is never frictionless. Change may favor some interests over others, that is the nature of change – the status quo is disrupted. Thus the question becomes, when creating a business case for near zero emissions (not defined), what does this mean and for which businesses, all existing ones? Further, enhancing clean air has indirect benefits for businesses by improving health. Hence the definition of business case must include public health benefits – less sick days, less absenteeism, less doctors and hospital visits, and, for children, better lung development, better school attendance, better future workforce. 17-7

Further, new equipment can be counted as a cost, or a benefit. If it is manufactured locally, it is a benefit for jobs and manufacturing while being a cost for the purchaser.

Appendix IV –A-45
Are all of these measures commensurable in impact on air quality? Should they not be prioritized and rank ordered?
What is the rationale for regulatory relief and how has it affected compliance?

How will AQMD work with agencies, utilities, businesses and other stakeholders to accomplish all that is listed at the bottom of IV-A 46?
It would seem that AQMD would be best off establishing standards and if businesses needed help meeting them, then an incentive program could be developed. I see no standard for performance in this discussion. 17-8
Mechanisms will be explored to incentivize businesses and facilities to choose the cleanest technologies as they replace equipment and upgrade facilities, and to provide incentives to encourage businesses to move into these technologies sooner. Although replacement of older, higher emitting sources is expected to have the greatest potential for emission reductions, providing incentives and eliminating barriers for new sources to manufacture and use ultra clean technologies is also important. IV-A-47
This is an example of the need for standards. What is cleanest? Who decides? What is clean enough?

IV-A-48: Record keeping sentence makes no sense. 17-9

What are the enforcement mechanisms?

Incentive effectiveness
"Given the potential variety of programs and projects that will be developed, the incentive effectiveness is only an estimate based on the specific equipment and facilities identified. Once a **working group** is established, staff expects additional types of equipment and processes improvements to be identified for facility modernization. The equipment/industries identified are only an example of a pathway to the five tpd reductions based on the data in the AER and permitting systems. Upon implementing the VIP, the incentives will be allocated based on pre-defined criteria developed by the working group (e.g. incentive effectiveness, funding partnership opportunities, capital cost of equipment, maximum NOx reductions, location in or 17-10

4

near EJ areas, small business, etc.). The incentive effectiveness for specific incentive programs will be determined as they are developed and implemented by the SCAQMD. It is anticipated that $450 million dollars will be allocated to achieve five tpd of NOx emission reductions from this incentive programs. Incentives may include grants for the new purchase of equipment as well as loan programs in areas where capital costs are high but long-term cost savings from increased efficiency are achieved. **Public funding or public-private partnerships** can be used to tip the balance towards a business case for investments when equipment upgrades do not offer sufficient returns for private investment. The SCAQMD will work together with businesses, other government agencies, and public utilities to implement incentive programs that will reduce the most emissions with the least amount of cost." IV-A-56

17-10 Con't

The public is missing from this stakeholder working group discussion especially if there is to be public funding involved.
Further, this approach has very high transaction costs and will skew the discussion toward entities with staff that can be devoted to the discussion.

In Chapter 4, additional comments beyond buildings
CMB-05- The RECLAIM assessment discussion is unclear, need to expand on the statement that it included more RTCs than necessary and how that is being redressed, particularly in light of cap and trade.

17-11

BCM-10
What is the cost of implementation and who will bear it? How much VOC and ammonia will be avoided and how does it fit with city led increased composting targets?

17-12

FUG-01 Smart LDAR, FTIR etc. . . self-reporting These new technologies will be paid for through incentives? Is there spot checking by AQMD? What is the cost benefit of having the agency do this itself as it is essentially remote sensing? It could also be contracted out to a university.

17-13

FLX-02 seems like a great deal more work for agency staff: develop incentive funding, permitting and fee incentives and enhancements, NSR incentives and enhancements, branding incentives, record keeping and reporting. Would AQMD do the branding, or is this a consultant's role?

17-14

Emissions Growth Management
EGM 01
Discussion, no action.

17-15

Facilities-based mobile sources/ warehouses
Should require electrification at rail yard and intermodal facilities and electrify short-haul entirely.
Stakeholder should include nearby residents.

Goals seem modest for dirty vehicle retirements

MOB-11

If this extended exchange program for the lawnmower and leaf blower exchanges (55,000 lawn mowers), is seen as success, then it would be useful to have a definition from the agency of what success means. The penetration of this program is woefully inadequate, and is hopefully not an example of what is desired for, say, building retrofits. 17-16

Chapter 10

The most striking part of this chapter is 10-12 and the projection that electricity use will grow 20 percent from 2012 – 2031, an average of 1.1 percent a year. Does this take into account SB 805 targets and other statewide goals?

AQMD has an obligation to ensure that conservation efforts, like some of those discussed above, are successful. If SB 805 is not included in the 1.1 a year, then there is no reason why existing building energy use cannot be reduced to counter balance 1.1 percent energy use each year. However, if it is, then incentive programs will likely be insufficient to address increased energy increases, and most of the programs described in the Plan will be inadequate. 17-17

The goals for the region must be the reduction of energy use, efficiency is only one strategy. While AQMD cannot infringe on the existing authority of counties and cities to plan or control land use, with AB 32 and SB 375, AQMD has a strong role to play in providing critical air quality analysis for land use decisions. Developing stronger alliances with cities and counties around the air quality implications of land use decisions and incentives for land uses that are less transportation dependent and building patterns that are conducive to low emissions should also be part of the AQMD tool kit for addressing air quality.

6

Responses to Comment Letter from Stephanie Pincetl (UCLA)
(Comment Letter #17)

Response to Comment 17-1:

Staff appreciates the insight and suggestions regarding implementing a viable incentive program. These will be considered when the individual incentive program and guidelines are being developed. The guidelines are expected to address detailed implementation specific to the different incentive programs. A Financial Incentive Funding Action Plan is currently under development that will provide more detail as to the possible sources of funding available.

Response to Comment 17-2:

The SCAQMD has primary responsibility in developing a control strategy to demonstrate attainment of the air quality standards and has primary authority over stationary sources. So, if the control strategy fails to reach attainment, it would be likely more reductions would need to occur from stationary sources unless an agreement is reached with state to commit to more reductions. Because most of the stationary sources are already subject to the most stringent controls in the nation, the statement in the Draft Plan that it is unfair that stationary sources alone should bear emission reduction burden without an adequate and fair-share level of reductions from all sources would be a valid statement. This clarification has been added to the Revised Draft 2016 AQMP.

Response to Comment 17-3:

The SCAQMD has a long-standing policy of technology and fuel neutrality; however, staff also recognizes the benefits of cleaner technologies to reduce air pollution given multiple environmental goals. One of the objectives for the 2016 AQMP is to prioritize maximizing emission reductions utilizing zero-emitting technologies when cost-effective and feasible, and near-zero technologies in all other applications. In some cases near-zero technology may rely on natural gas, but zero-emitting technology will be useful when feasible. Also, SCAQMD must obtain NOx reductions to meet the 1-hr and the 80 ppb 8-hr ozone standards which may require near-zero technology where zero-emission technology is not yet feasible.

Response to Comment 17-4:

Thank you for your comments. Benefits to public health and climate change mitigation have been added to this paragraph.

Response to Comment 17-5:

Because Table 2 is too big to be fit in one page, control measures in the table are grouped by target pollutant, such as NOx or VOC, and then are re-grouped by nature of measures, either regulatory, co-benefits, incentive-based, or other measures.

Response to Comment 17-6:

We support the development of energy efficiency metrics that directly measure efficiency programs effectiveness, not only encouraging and tracking energy savings, but also to track emission reductions.

Rental properties are eligible to apply for rebates and incentive programs. This would be difficult for SCAQMD to enforce, but will look into this further.

In addition, ECC-04 proposes the implementation of similar standards. Ongoing meteorological and chemical transport modeling will help determine if these measures lead to improvements in air quality.

Response to Comment 17-7:

If equipment cannot be replaced with a technology or a facility cannot be modernized to zero emissions, then a near-zero technology or design would be expected. There is no formal definition of "near-zero" but for the purposes of this AQMP, "near-zero" is defined as at least 90 percent decrease in NOx emissions compared to current emission standards. Different technology exists for different types of equipment. Some technology and equipment replacements have greater emissions reductions or are lower emitting than others. The purpose of the control measure CMB-01 is to adopt regulations and incentives to more facilities and businesses towards technologies with zero and near-zero emissions that may have been less cost-effective in the past. The SCAQMD will establish working groups to include all stakeholders and determine the most effective methods, balancing factors such as costs, emissions reductions, small businesses, Environmental Justice areas, etc.

Response to Comment 17-8:

Staff will form working groups to facilitate a dialogue between agencies, utilities, businesses, and other stakeholders to accomplish the proposed controls. Working group meetings could help affected or interested stakeholders address potential concerns that may arise from new technology and equipment replacement. An example could be coordinating a landfill facility with a city to provide biogas as a transportation fuel. Also the potential incentive concepts listed in CMB-01 can be discussed in the working groups to better coordinate between all entities.

Response to Comment 17-9:

One method inspection staff ensures compliance is through verification of operational or maintenance records. Recordkeeping and reporting requirements may be reduced for equipment that meets specific zero and near-zero emission technologies as an incentive. An example of a recordkeeping and reporting incentive can come from replacing a diesel internal combustion engine (ICE) with a fuel cell or battery storage. This diesel ICE may currently be required to keep fuel usage records, operation and weekly maintenance logs, and/or a fuel meter; however, if the facility changed to a fuel cell or battery storage fuel usage records, hour meter records, and operation logs may no longer be needed to be maintained and reported to enforcement to ensure compliance because the technologies are inherently clean.

Response to Comment 17-10:

Staff agrees all interested stakeholders including the public should participate in working group meetings and discussions. Staff will ensure outreach is conducted for all interested parties.

Response to Comment 17-11:

The RECLAIM program establishes a programmatic cap for the entire universe of facilities and investors. In order to maintain market liquidity and to allow opportunity for facility and industry growth, the allocations of RECLAIM Trading Credits must be greater than the programmatic emissions. At the same

time, however, the programmatic level of allocations must be equivalent to what would be achieved under command-and-control regulations and the SCAQMD is required under State law to perform periodic BARCT assessments to ensure equivalency.

Response to Comment 17-12:

BCM-10 discusses the affected industry, estimated amount of VOC and NH3 reduced, and cost effectiveness of the proposed method of control. Increased diversion to composting is already considered and included in the inventory. The cost of implementation is estimated in the AQMP Socioeconomic Assessment Report.

Response to Comment 17-13:

It is undetermined to which technologies will be deployed, but once successful demonstration of technology is completed, it is anticipated that facilities would be required to pay for, maintain, and report on such systems, with SCAQMD oversight.

Response to Comment 17-14:

SCAQMD acknowledges the level of work to establish and implement an incentive program but also recognizes the benefits from encouraging and supporting transitions to cleaner technologies outside the regulatory framework, in particular for the short-term. SCAQMD staff has experience with developing incentive program guidelines, outreach, contracts, and enforcement. The SCAQMD in the past has awarded certifications to facilities and provided labeling for products. Staff is open to new ideas and depending on availability of staff resources, there could be consideration of securing assistance from a consultant.

Response to Comment 17-15:

The SCAQMD Mobile Source Measures are intended to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures found in Appendix IV-B. One of the objectives of the measures is seeking greater deployment of zero-emission technologies wherever possible and near-zero emission technologies everywhere else.

The State Mobile Source Strategy contains a measure calling for zero-emission last mile delivery, which seeks to deploy zero-emission vehicles for short-haul deliveries.

For the facility-based measures and emissions growth management measure, the SCAQMD staff will work with all affected stakeholders to seek approaches to maximize the penetration of zero-emission technologies as early as possible.

The SCAQMD intends to include community organizations and interested nearby residents in the public process. SCAQMD staff believes that the goals of the facility-based measures and the emission growth management measures will be aggressive in nature since the measures call for identification of actions that go beyond regulation requirements. These actions will help meet the State SIP Strategy “Further Deployment of Clean Technologies” measures. The “Further Deployment” measures when fully implemented will result in over 100 tons/day of NOx reductions by 2023. The SCAQMD measures are proposed to help meet a large portion of these measures through early actions.

Response to Comment 17-16:

The focus of MOB-11 is on larger diesel-powered lawn and garden equipment such as riding lawnmowers and chipping and grinding equipment. The population of these types of equipment is much smaller and usage is much greater compared to the number of handheld equipment and smaller lawn and garden equipment used primarily at residential locations.

Staff believes that it is more cost-effective to focus on this sector to achieve greater emission reductions, while continuing the existing lawnmower and leaf blower exchange program to encourage consumers to use zero-emission technologies.

Response to Comment 17-17:

Electricity use is estimated based on the California Energy Commission Demand Forecast Mid Demand Baseline Case. This table includes retail sales and other deliveries only measured at the customer level. Losses and consumption served by self-generation are excluded. Certain existing statewide goals are included in the projections if they were adopted/implemented in time to be included in the CEC Demand Forecast. The table was developed based on actual 2013 data. The table includes sales from entities outside of California control areas.

Comment Letter from City of Moreno Valley (Comment Letter #18)

Community Development Department
Planning Division
14177 Frederick Street
P. O. Box 88005
Moreno Valley CA 92552-0805
Telephone: 951.413-3206
FAX: 951.413-3210

August 17, 2016

South Coast Air Quality Management Plan
Mr. Michael Krause
Planning and Rules Manager
21865 Copley Drive
Diamond Bar, CA 91765-4182

Re: Notice of Availability of the Draft 2016 Air Quality Management Plan

Dear Mr. Krause,

The City of Moreno Valley appreciates the opportunity to comment on the 2016 Draft Air Quality Management Plan (DAQMP).

A number of plan objectives are provided within the DAQMP. It is understood that a key element of Plan implementation will be private and public funding to help further development and deployment of the advanced technologies and emission reductions highlighted in the document. The DAQMP did not provide specific details on funding sources and incentives to carry out the goals and objectives of the Plan. 18-1

The DAQMP did not include details on sanctions to meet strict air quality strategies. The City asks that local jurisdictions have adequate time to review any sanction proposals if included with the future implementation of the Plan. 18-2

It is understood that there may be future opportunities for local jurisdiction training and review regarding key implementation strategies. The City asks that local agencies are notified and receive ample time to act on any training opportunities when they become available.

We look forward to receiving a copy of the Final 2016 AQMP once it becomes available. Please include the City on any mailing lists regarding final documents as well as for future notifications of meetings/public hearings associated with the project. 18-3

Should you have any questions or concerns, please contact Mark Gross, Senior Planner at (951) 413-3215.

Sincerely,

Mark Gross, AICP
Senior Planner

c: Richard J. Sandzimier, Planning Official

Responses to Comment Letter from City of Moreno Valley
(Comment Letter #18)

Response to Comment 18-1:

As part of the 2016 AQMP, a Financial Incentive Funding Action Plan is currently under development that will provide more detail as to the potential source of funding available. Part of this Financial Incentive Funding Action Plan was presented at the Mobile Source Committee Meeting on October 21 and at the 2016 AQMP Advisory Group Meeting #14 on October 27, 2016. The Revised Draft 2016 AQMP also discusses the level of funding incentives needed to help achieve NOx emission reduction associated with the State SIP Strategy "Further Deployment of Cleaner Technologies" measures.

Response to Comment 18-2:

The comment is not clear as to the "sanctions" to "meet the strategies." Failure to submit or implement a Plan could result in federal sanctions and consequences pursuant to the Clean Air Act (CAA). The U.S. EPA Administrator would need to make a finding of failure to submit a Plan, disapprove a portion of the Plan, or failure to implement an approved Plan. The state would be given 18 months after the finding or disapproval to correct the deficiency. If still not satisfied, sanctions such as prohibition of highway funds for local projects and increased emissions offset requirements could be triggered. Further, the U.S. EPA could develop and require a Federal Implementation Plan (FIP) that would likely not fully consider local needs.

Strategies in the AQMP are intended to be developed into rules or programs that would be established through a public process such as working group meetings, workshops, reports and public comment periods. Rules and programs typically include enforcement elements to ensure the rules are properly complied with and programs are properly implemented. Again, there will be adequate time for interested parties to participate and comment.

Response to Comment 18-3:

Similar to the development of the rules and programs, the SCAQMD hosts workshops and training classes for new programs and ample information is provided online to educate the public and interested parties. It is suggested the commenter take advantage of the SCAQMD website (www.aqmd.gov) that provides an ongoing rule development schedule, upcoming working group meetings and public workshops, as well as available documents on the interested subjects.

Comment Letter from Electratherm (Comment Letter #19)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

Please enter your contact information, comments and/or upload comment files below. The information collected may be used to provide further information about public workshops and hearings, and other events related to the 2016 AQMP. Responses to comment will be compiled and included in the final Plan package.

*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/17/2016	11:13 AM	2016

Commentor Contact Information

Commentor's Name *	Organization *	City	State	Zip Code
PAUL HUGHES	ELECTRATHERM	RENO	NV	89502

If not representing a specific organization, please enter "No Affiliation".

Comments (Unlimted Size)

We would like to provide information and a solution for biogas utilization which can meet or exceed emission requirements with an available commercialized technology called the Power+ manufactured out of Reno, Nevada. Hot water is it's fuel and it has ZERO emissions. This is not a black box technology and can be implemented now without delay, trials, or testing. The Power+ generator has been proven with installations around the world with over 60 years of cumulative runtime. The Power+ simply utilizes hot water from a low emissions biogas boiler (already in use, proven, and permitted at wastewater plants in California) to make onsite power. This technology has also been proven in reducing emissions at oil wells. It is a very cost effective solution compared to other options and can be implemented at wastewater plants, landfills, and oil well sites immediately. 19-1

Upload Additional Comment and Supporting Files (30 Mb Maximum per file) (1)

AQMP Comments Files

PLN - AQMP Comments - 8/17/2016 - Comment Type: - Author: PAUL HUGHES - Agency: - N

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *

Paul Hughes

For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

8/17/2016

Information and application of the ElectraTherm Power+ Generator to reduce emissions at wastewater treatment plants and landfills generating biogas

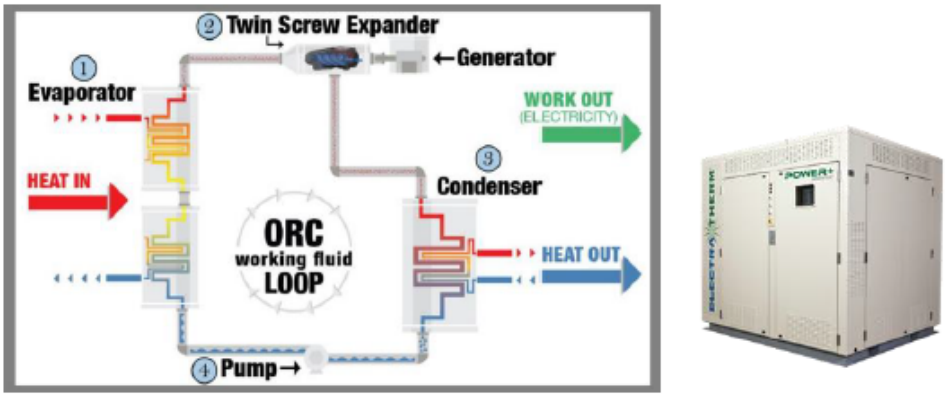
Process: Biogas > Low emission boiler > Power+ Generator

Key Benefits:

1. **Make onsite power in an emission free generator. The Power+ itself has no combustion, and zero emissions.**
2. Meet or exceed current & proposed AQMD & EPA emissions levels with no need for delays or extensions.
3. Dramatically lower emissions compared to engines. The Power+ system works in tandem with low emission boilers already permitted and in place at most wastewater plants in Southern California.
4. Utilize all the biogas being produced and/or flared. A renewable resource, and of great interest to Utility customers, and neighbors.
5. Dramatically lower capital investment, O&M, and footprint compared to an engine
6. Simplified biogas power generation solution.
7. Eliminate the need for biogas conditioning systems and the often overlooked electrical parasitic loads they require.
8. Eliminate the need for large volumes of onsite biogas storage. A maintenance item, safety concern, and in today's world a security risk.
9. Dramatically reduce the fugitive methane leak points typically associated with biogas conditioning systems and storage. Methane is a potent greenhouse gas, around 25 times more damaging than carbon dioxide.
10. Provides a variable-load solution that can follow the wastewater plants' varying biogas production. No need to recalibrate the Power+. Engines, microturbines, or fuel cells will struggle without adequate volume and stable flow of clean biogas.
11. The Power+ flexibility means the boiler can run continuously and stay hot which substantially increases boiler life and decreases boiler O&M costs and power usage.
12. Reduce natural gas use. Natural gas is typically used in bringing a boiler up to condensing temperature before switching to biogas. Also, natural gas is often blended in biogas when running engines to increase efficiency and stable operation.
13. Proximity to manufacturer for support and service. We are located in USA out of Reno, Nevada. The Power+ Generator has been installed in 14 countries with over 60 years cumulative runtime with a 97% availability. With only 3 major moving parts we pride ourselves on reliability.

ElectraTherm's Power+ Generators generate fuel-free, emission-free electricity from low grade waste heat (170-240°F/77-116°C), utilizing Organic Rankine Cycle (ORC) and proprietary technologies. **Hot water fuels ElectraTherm products**. ElectraTherm machines are fully packaged with outputs up to 110kWe per module (<7'x11') for distributed power generation.

8/17/2016



No gearbox, combustion, air filters, or exhaust stack. Low temperature (170F-252F) hot water is the fuel.

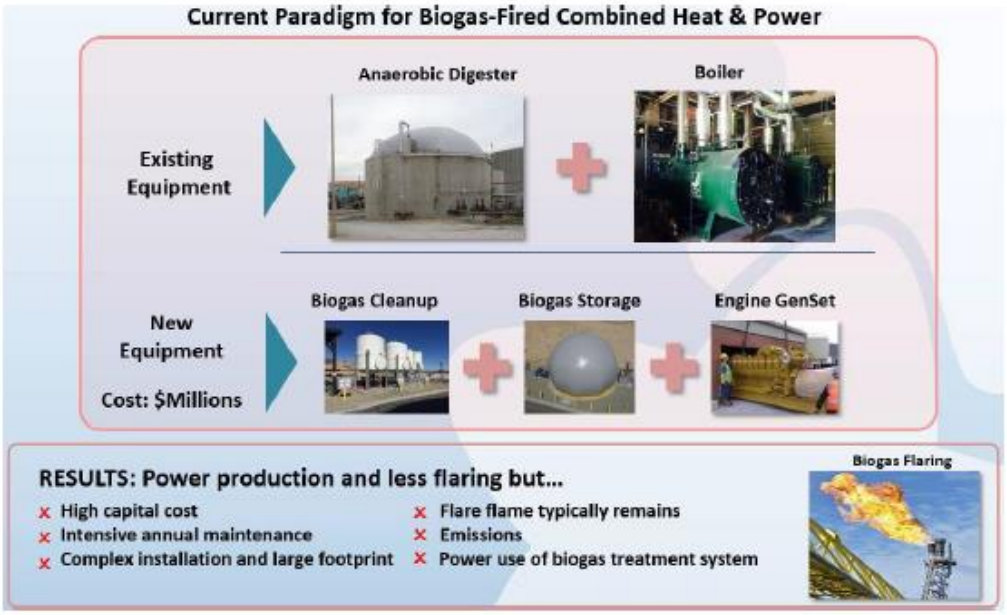
ElectraTherm Power+ Generators use a closed-loop Organic Rankine Cycle (ORC) to create pressure by boiling a working fluid into a gas. The gas expands and turns a twin screw expander, our power block, which drives a generator to produce electricity. It is very similar to the Rankine (steam) cycle, but replaces water with a much lower boiling point working fluid (boiling point of 57F). ElectraTherm combines traditional components with patented technology to create electricity from waste heat.

ElectraTherm has the largest fleet of low temperature ORC installations in the world. To attain this goal, ElectraTherm adapted its core power generating technology to a number of different applications. Current deployments and demonstrations include, flare to power, engine heat recovery from a variety of engine models, waste biomass and biogas, industrial waste heat, geothermal fluids and solar thermal energy.

Hot water fuels ElectraTherm products. Boilers at anaerobic wastewater treatment plants create hot water from the biogas to heat the digesters. The Power+ twin screw expander allows the generator to ramp up and down as well as start and stop based on temperature and flow always generating the maximum power. Using a turbine technology does not allow for these fluctuations and is unforgiving to changing biogas volumes which wastewater plants can experience.

Due to the fact that emission reduction, beneficial methane use, and power generation are major issues for plants in the US, ElectraTherm sees the potential for a new paradigm and an easier solution to the age old problem of what to do with produced biogas. The slides below show the current methodology for using methane to create power with the Power+ being an alternative with a much smaller, simpler, less capital and maintenance intensive solution.

8/17/2016



OR....

Lower emission power generation solution. And can eliminate flaring!

THIS IS SMART POWER®

3

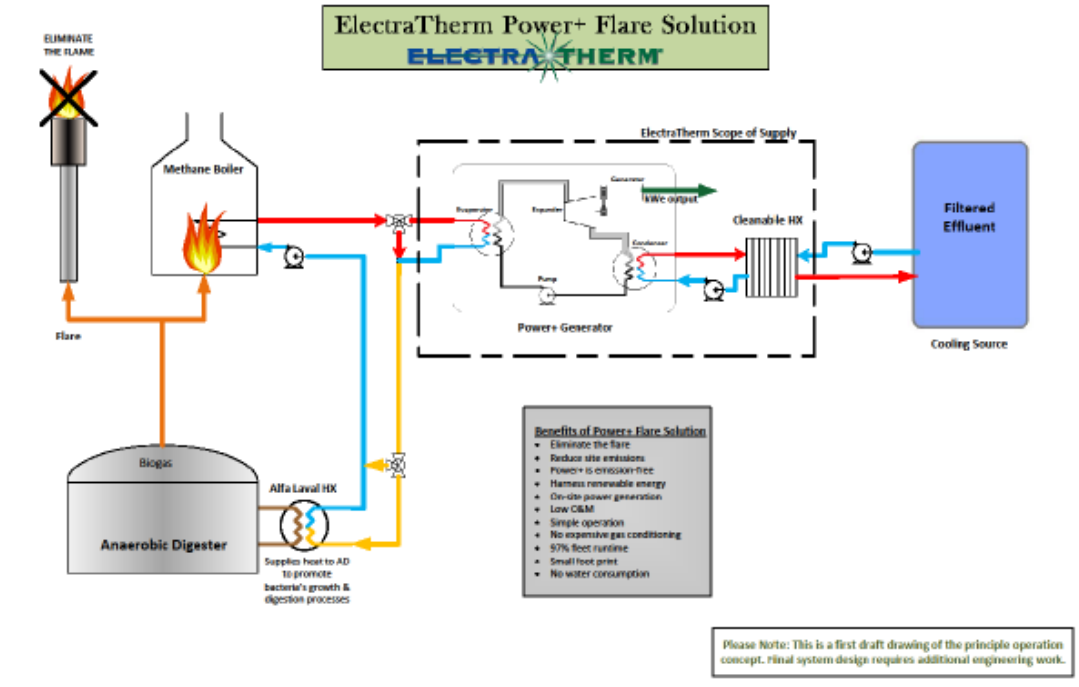
8/17/2016

Our application is at wastewater plants with Anaerobic digestion typically start at plants treating >3 MGD. Specifically plants that are flaring off greater than 40,000 ft2/day will be able to utilize a Power+ generator. Our largest Power+ 6500 (110kW) generator will max out at 243,000 ft2/day of biogas, larger biogas volumes will require multiple machines effectively multiplying power output as well. Many California wastewater plants already have existing dual fuel low emission boilers capable of burning all or majority of the biogas currently being flared.

Another benefit of utilizing existing low emission boiler technology is that these boilers are already proven, operators are familiar with them, already approved with AQMD, readily available, and relatively low cost. Also, they do not require the extensive biogas conditioning which is required for engines, microturbines, and fuel cells. Boilers can typically handle much higher levels of H2S (<1000ppm H2S) and are very efficient at 80% or greater. Many wastewater plants only utilize the boilers to heat the digesters on demand, and when these boilers come online they usually require natural gas usage to ramp the boiler up to condensing temperature before switching over to biogas. Also, operators understand that keeping a boiler hot will extend boiler life, lower O&M, and help keep biogas feed lines from plugging.

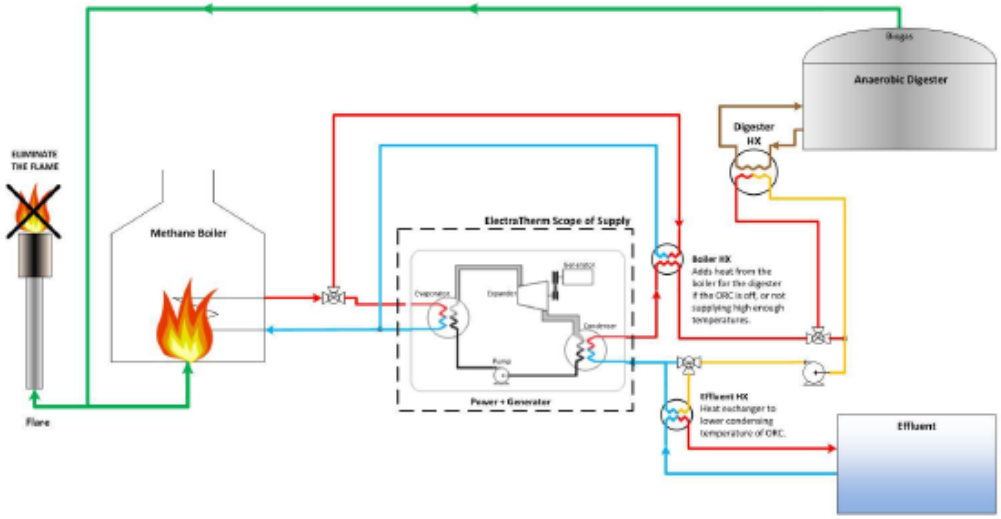
Installation options diagrams:

Eliminate flaring and generate power



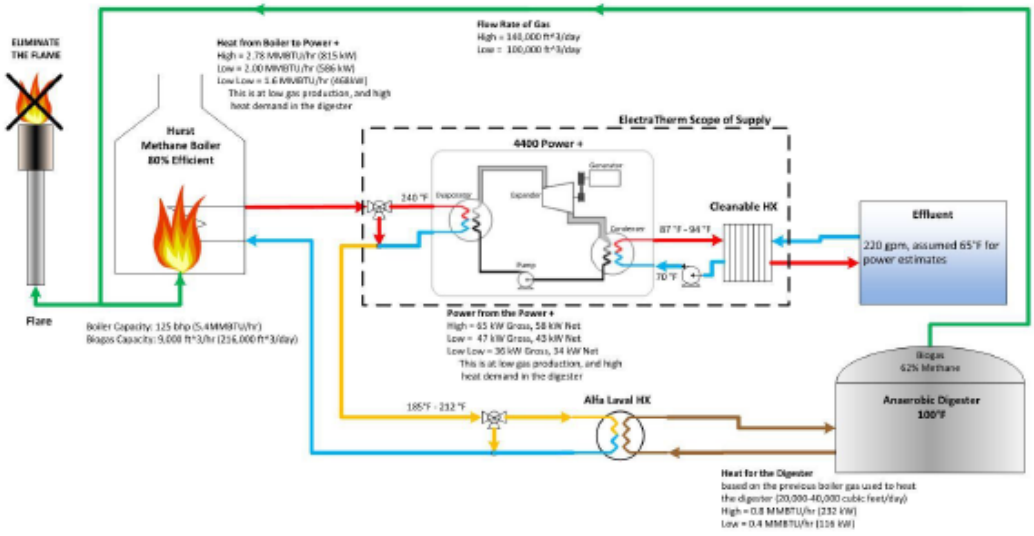
8/17/2016

Utilize biogas to make Power and provide heat to be used in digester (CHP)



Costs of implementing the Power+:

Example: Plant is flaring 140,000 ft2/day of 62% methane



8/17/2016

On an installed basis without any increase in cost of power and including all Power+ O&M costs this facility would have a 4 year payback. The estimated total capital expenditure including estimated installation would be $327,617.00. They would eliminate all flaring and lower their emissions by utilizing existing Hurst low emission boiler(s) and make >$0.05 power including all O&M costs for Power+ generator. The internal rate of return for the life of equipment would be >23%.

ElectraTherm Power+ Generator Pricing:

Power+ 4200 (35 kW) $173,587.00

Power+ 4400 (65 kW) $200,724.00

Power+ 6500 (110 kW) $297,200.00

*Freight & start up are not included

**Cleanable heat exchanger with pump skid not included (added if plant effluent has free chlorine or high solids).

Proven flare emission reduction and power generation

In the summer of 2015 ElectraTherm partnered with Hess Corporation to commission a Power+ Generator at a North Dakota oil well. The Power+ captured the natural gas that would otherwise be flared to generate electricity and reduce or eliminate onsite flaring. In collaboration with distributor Gulf Coast Green Energy, the project successfully demonstrated an effective means of flare reduction, and changes the landscape for industries where flaring or very capital intensive and maintenance intensive power generation were previously believed to be the only options. Funding for the project was provided by the Department of Energy's Research Partnership to Secure Energy for America (REPSEA) program and the Houston Advanced Research Center's (HARC) Environmentally Friendly Drilling Program. A short video on the project is https://youtu.be/4IJEZ1e-PRA or

https://electratherm.com/flare-elimination-system-video/.

Currently North Dakota state regulations require that oil and gas companies significantly reduce the amount of natural gas that is burned in flares over the next several years or face steep penalties and potential curtailment of oil production at offending wells. ElectraTherm's Power+ captured the waste heat and provided beneficial and clean methane utilization without capital intensive gas clean-up, storage, engine or micro turbine capital costs, and the heavy maintenance associated.

At the oil well, natural gas that would otherwise be flared was instead used to fuel an industrial boiler. The boiler heated water to run the Power+ Generator, and produces clean energy that is used onsite displacing the retail cost of power.

This demonstration showed that we could capture a wasted fuel source that was being flared to the atmosphere, and put that fuel to use in remote oil fields. The emissions profile of the site is greatly improved, the power is consumed on site and the equipment is easy to install and maintain. Beyond oil

and gas, ElectraTherm sees potential for other applications where flaring is a major concern, such as at landfills and waste water treatment plants.

Texas A&M was recruited by HARC to provide emissions reductions results of a raw flare as compared to the boiler emissions onsite. According to the report, "It is important to note that the emissions from the Power+ Generator system's boiler are lower (comparatively less harmful to the environment) and would provide the added utility of power generated for use from the raw gas or fuel gas which would otherwise be wasted." The report includes the percentage of reduced emissions as a result of the Power+ Generator, with an 89% reduction in CO, 48% reduction in NOX and 93% reduction in VOCs.

Percent Reduction in Emissions

CO ↓	89%
NO_x ↓	48%
VOCs ↓	93%

The report concludes "The real benefit is the power generated by raw gas or fuel gas which would otherwise be wasted by open flaring. Furthermore, this new technology would meet the goals of the US EPA and North Dakota."

Papers, Publications, and Proceedings

Feb 23, 2016
Midstream Magazine published a by-line from John Fox on how waste heat from gas compression can provide site power and increase engine efficiency.
https://electratherm-electratherm.netdnassl.com/wpcontent/uploads/2016/02/MidStreamMagFeb2016.pdf

Nov 25, 2015
The Bakken Magazine wrote a story on the Texas A&M report that showed ElectraTherm's flare elimination technology can significantly reduce well site emissions.
http://thebakken.com/articles/1371/report-gas-capture-technology-significantly-reduces-emissions

Sept 16, 2015
A white paper on the Organic Rankine Cycle (ORC) and benefits for reciprocating engines was published in the September issue of **Power Engineer Magazine**.
https://electratherm-electratherm.netdna-ssl.com/wp-content/uploads/2015/09/ejournal_Vol19Issue3_Sep2015_ET.pdf

May 28, 2015
ElectraTherm's partnership with Air Burners to commission the PGFireBox was included in Biomass Magazine.
http://biomassmagazine.com/articles/11991/electratherm-commissions-whole-log-woody-biomass-power-plant

8/17/2016

April 16, 2015
ElectraTherm was featured in Compressor Tech 2 Magazine's April 2015 publication.
https://electratherm-electratherm.netdna-ssl.com/wp-content/uploads/2015/04/Compressor_Article_2015.pdf

April 14, 2015
Diesel and Gas Turbine Worldwide covered the 2015 Energy Company of the Year award given to ElectraTherm by Nevada's Center for Entrepreneurship and Technology (NCET).
http://www.dieselgasturbine.com/April-2015/ElectraTherm-Wins-Energy-Company-of-the-Year/#.VyqBaZrmpCp

May, 2016
Pending publication of ~70 page report detailing the efficiency gains witnessed by Southern Research on ElectraTherm's second Dept. of Defense contract. ElectraTherm replaced the radiator on a 1.1MW Cummins diesel fired reciprocating engine and reduced fuel consumption up to 14%. The increase was due to capturing the jacket water and exhaust energy and converting that to addition electricity production and the removal of the cooling load parasitics on the engine. ElectraTherm has created the world's first radiator with a payback.

Reference videos:
ElectraTherm Power+ Intro: https://youtu.be/jolldSWMShE
Media highlights /Presidents visit: https://electratherm.com/news-room/in-the-news/

For more information please contact:
Paul Hughes – North American Business Development
M. 559.298.5558
W. 775.398.4680 ext.151
phughes@electratherm.com | www.electratherm.com

Responses to Comment Letter from Electratherm
(Comment Letter #19)

Response to Comment 19-1:

Staff appreciates the information on this technology and included it as an example of emission reductions that can be utilized as an alternative to flaring (CMB-03) and for reducing emissions from biogas usage at landfills and waste water treatment facilities (CMB-01).

Comment Letter from Gloria Sefton (Comment Letter #20)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

Please enter your contact information, comments and/or upload comment files below. The information collected may be used to provide further information about public workshops and hearings, and other events related to the 2016 AQMP. Responses to comment will be compiled and included in the final Plan package.

*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/17/2016	10:45 AM	2016

Commentor Contact Information

Commentor's Name*	Organization*	City	State	Zip Code
GLORIA SEFTON	NO AFFILIATION If not representing a specific organization, please enter "No Affiliation".	TRABUCO CANYON	CA	92678

Comments (Unlimted Size)
I delivered the following content in testimony to the AQMD Board at its hearing on July 8, 2016. Please include this in the administrative record for this matter.

Mr. Chairman and members of the Board, good morning. My name is Gloria Sefton. I'm an attorney in the medical device industry (a highly regulated industry, needless to say) and a resident of Trabuco Canyon in Orange County. I'm also a lifetime member of the Sierra Club and a board member of Friends of Harbors, Beaches and Parks in Orange County. I am speaking today as an individual.

I took this morning off from work because I am disturbed about the direction the AQMD appears to be going.

I was born in LA and grew up in the San Fernando Valley in the 60s and 70s. I remember well the brown, smoggy days – days when you couldn't play outside or see the Santa Susana Mountains that were only a few miles away.

Through regulation, the quality of our air has improved year over year since.

I'm very concerned that this board would consider taking us back to those days. An incentive-based plan puts business interests above public health and safety and is wrong-headed and dangerous. Allowing the Department of Water of Power to run its antique diesel generators this summer is one example of these relaxed standards that will hurt our citizens. 20-1

In LA County alone, population has grown by more than 3.5 million since the 60s when I grew up, making it even more critical that regulation of emissions, not incentive-based favors to business, be in place to ensure that our air is clean and safe to breathe.

When the Department of Transportation imposed fuel economy standards on cars and light trucks, the auto industry complained bitterly that it couldn't be done and that they'd be driven out of business. But what happened? They rose to the occasion, in healthy competition with one another, inventing new technologies to reduce fuel consumption and emissions before their deadlines. The result? Cleaner air.

So please, continue to do the job that AQMD has done so well. Don't let political ideology create a false choice between clean air and a favorable business climate. Clean air is important not only for our health and quality of life, but for our region's tourism and desirability.

Technology-forcing regulations can create clean air and healthy businesses too.

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *

For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

Responses to Comment Letter from Gloria Sefton
(Comment Letter #20)

Response to Comment 20-1:

The 2016 AQMP includes aggressive new regulations as well as development of incentive funding and supporting infrastructure for early deployment of advanced control technologies. Technology-forcing regulations can drive development and commercialization of clean technologies, with future year requirements for new or existing equipment. Incentives can then accelerate deployment and enhance public acceptability of new technologies. Please see Response to Comment 11-1 regarding the intent of the incentive measures and their important role in meeting fast approaching ozone standard deadlines. In addition, since the release of the Draft Plan, two of the three incentive-only measures have been modified to include future rulemaking.

Comment Letter from American Chemistry Council (Comment Letter #21)

BY ELECTRONIC MAIL

August 18, 2016

Philip Fine, Ph.D.
Deputy Executive Officer
Planning, Rule Development & Area Sources
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182

Re: Draft 2016 Air Quality Management Plan

Dr. Fine:

The Hydrocarbon Solvents Panel (HSP) and Solvents Industry Group (SIG) of the American Chemistry Council (ACC) appreciate the opportunity to comment on the District's draft air quality management plan. ACC is concerned about the proposal for further reductions of two tons per day of volatile organic compound (VOC) emissions from coatings, solvents, adhesives, and sealants by 2031 (CTS-01). The proposal appears to be a carryover from the 2012 Air Quality Management Plan (AQMP), which the District indicates was not implemented as a result of "technical and policy challenges."[1] The 2016 draft AQMP identifies a number of stationary source rules that could be affected by CTS-01 - in particular Rule 1168 pertaining to adhesive and sealant applications.

Ozone levels in the South Coast Air Basin have declined significantly over the past few decades, but have begun to level off in recent years.[2] AQMD's modeling results suggest that this is the result of the complex interaction between VOC and nitrogen oxide (NOx) concentrations in the troposphere and that further reductions in ozone concentrations require reductions in NOx. The modeling also suggests that further progress on ozone levels is largely independent of additional reductions in VOCs. Consequently, the proposed 2016 AQMP focuses largely on measures to reduce NOx levels. Yet the data presented in the draft 2016 Plan indicate no overall change in NOx emissions over the last 4 years, while VOC emissions have continued to decline – as a result of continued emissions reductions from stationary sources.[3] It is curious therefore that the draft plan continues to propose reductions in VOC emissions from adhesive and sealant and other applications. 21-1

The description of CTS-01 in Appendix IV-A of the draft AQMP notes that the District proposes to adopt a "NOx-heavy strategy accompanied by more modest VOC reductions" to help avoid temporary increases in ozone concentrations in the western side of the Basin. The draft Plan further explains that the VOC control program is intended to prioritize controls that maximize the co-benefits of NOx, greenhouse gases (GHG), and air toxic reductions, followed by controls that could create a "win-win" for

[1] SCAQMD. Draft 2016 Air Quality Management Plan (2016 AQMP), at 1-11 (June 2016).

[2] SCAQMD. 2016 AQMP White Paper - VOC Controls (October 2015).

[3] 2016 AQMP. Appendix III – Base and Future Year Emission Inventory, at III-2-2 (June 2016).

americanchemistry.com 700 Second St., NE | Washington, DC | 20002 | (202) 249-7000

the affected entities. Unlike most of the other proposed measures, however, CTS-01 does not result in co-benefits for NOx, GHG, or air toxic reduction. Furthermore, in the absence of details on precisely how CTS-01 would be implemented,[4] it is impossible to determine whether it would create a "win-win" for the affected entities. Finally, while the rationale for proposing CTS-01 appears to be the avoidance of temporary increases in the western side of the Basin, the District projects a reduction of 120 tons per day of VOCs by 2023[5] - well in excess of the 30 to 40 tons/day the District suggests it needs to avoid increases in ozone exposure.[6] 21-1 Con't

ACC also wishes to express its concern with the cost estimate of $8,000 to $12,000 per ton of VOC reduction for CTS-01.[7] Without additional details on how the VOC reductions from stationary sources are to be achieved, it is impossible to determine whether the estimate is accurate. While the value represents the District's estimate of the cost for VOC reduction, moreover, it does not reflect the "cost effectiveness" of the measure in achieving the ultimate goal of reduced ozone levels. In order to determine the true cost effectiveness the District would have to consider, not only the cost to reduce VOC emissions, but also the resulting impact of this reduction on ozone levels. As described in the White Paper on VOC Controls, and as summarized above, the District's modeling results confirm that VOC reductions in the absence of a decrease in NOx emissions will have negligible impact on ozone. When measured against the impact on ozone levels, therefore, the true cost of implementing CTS-01 will be considerably higher. 21-2

Based on SCAQMD's own modeling results, significant progress towards achieving the federal ozone standard can only be achieved by reducing NOx emissions. ACC strongly encourages the District to defer any decision about further reduction in VOC emissions from stationary sources until such reductions are a cost-efficient means to achieve the desired air quality objectives in the South Coast Basin.

If you have any questions, please contact us (Jon_Busch@americanchemistry.com, 202 249-6725; Steve_Risotto@americanchemistry.com, 202 249-6727).

Sincerely,

Jonathon T. Busch

Jonathon T. Busch
Director

Stephen P. Risotto

Stephen P. Risotto
Senior Director

[4] For example – which exemptions would be tightened; which product categories would be subject to lowered limits.

[5] 2016 AQMP. Appendix III, at III-2-66. The District's 2023 emission inventory projects 379 tons of VOC/day in 2023, compared to baseline emission of 502 tons/day of VOCs.

[6] 2016 AQMP White Paper - VOC Controls, at 10.

[7] 2016 AQMP, at 6-20 (Table 6-5).

Responses to Comment Letter from American Chemistry Council (ACC)
(Comment Letter #21)

Response to Comment 21-1:

Please see Response to Comment 15-2 with regard to the need for CTS-01 measure in the 2016 AQMP.

Response to Comment 21-2:

Please see Responses to Comments 15-2 with regard to VOC reductions not associated with NOx reductions, 15-5 with regard to cost-effectiveness of CTS-01, and 15-7 with regard to VOC emission reductions from stationary sources, respectively.

Comment Letter form Michael Salman (Comment Letter #22)

2533 4th Ave
Los Angeles, CA 90018
salman@history.ucla.edu
323-402-0840
August 18, 2016

Dr. Philip Fine,
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: Comments on CMB-01 and CMB-03, especially as concerns oil and gas production flaring.

Dear Dr. Fine

Thank you for allowing me to speak at the May 4, 2016 meeting of the AQMP Advisory Group for being responsive on the subject of non-refinery flaring. I am writing to follow up on the exchange I had with you and Executive Director Nastri at the May 4 meeting, which focused on the following areas:

1) More consistent emphasis on beneficial use as the preferred method of control over flaring.
2) Disaggregating the category of "non-refinery flares" because the gas composition and potential for beneficial use to avoid flaring varies considerably between different sources. Landfills, solid waste plants, and oil & gas production sites are quite different from each other. They pose different challenges and opportunities.
3) I requested that SCAQMD should take a firmer and more direct regulatory stand against routine flaring at oil and gas well sites – that is, to prohibit routine flaring at well sites - for two reasons:
    a. The Governor's office has, through CAL EPA Secretary Rodriguez, committed to the World Bank's Zero Routine Flaring by 2030 Initiative that seeks to prohibit the introduction of any more new flares and promises to end all existing routine flaring at well sites by 2030 at the latest.
    b. Oil and gas well sites have numerous alternatives to flaring to handle stranded gas, tail gas, and any other gas that cannot be sold. Most of these solutions are already tested. They are all lower in Criteria Pollutant emissions than flaring, and they would all either make beneficial use of the gas or store the gas for later use (i.e., re-injection). All are far superior to flaring in terms of Greenhouse gas emissions. Beneficial use alternatives would earn the operators profits, whereas flaring produces no revenue.
4) Last, I asked SCAQMD to please take an active role in lobbying for incentives to promote early adoption of beneficial use alternatives to flaring.

22-1

1

I will discuss these four themes in order.

More consistent emphasis on beneficial use: Thank You.

I am pleased to see that the June 2016 Appendix IV-A on "SCAQMD'S STATIONARY AND MOBILE SOURCE CONTROL MEASURES" uses more consistent language to emphasize a preference for beneficial use over flaring.

22-1 Con't

Disaggregating the category of "non-refinery flares": Need to Do More

It seems a little bit of new language has been inserted into CMB-01 about the particular problems of landfills and municipal solid waste facilities.

Indeed, there are some challenges for those facilities to make beneficial use of their bio-gas, and so it is an appropriate step to introduce the idea of forming a "working group" to that "will strive to overcome obstacles and include interested parties such as The Gas Company, Sanitation District, Landfills, and CPUC." (see p. IV-A-47)

But it also seems to me that the language concerning oil and gas production sites remains unchanged and continues to confuse and conflate the gas from production well sites with the bio-gas from landfills and waste treatment plants. Not only is the gas composition and quality radically dissimilar at these different sources, so too is the range of beneficial use alternatives, plus long term storage through re-injection is a way to store gas at production well sites.

This point merits explication.

22-2

First, the gas quality differs radically at bio-gas generating sites as compared to oil and gas production sites.

Landfills and sewage plants tend to produce lower Btu gas with many impurities and a lack of consistency since feedstock for producing the gas fluctuates.

In contrast, the Btu rating of gas at production well sites is much higher, often higher than pipeline quality gas. The composition of the gas is far more consistent overall especially on a site by site basis. And in the LA Basin most of the production well sites produce low sulfur "sweet" gas that needs only modest sulfur removal by means like iron sponge adsorbers or other filtering (relatively simple solutions already used for decades).

SCAQMD has in its file gas composition reports from the Wilmington Controlled Drill Site operated by Warren E & P and a gas composition report from the Murphy Drill Site operated by FMOG. I have copies of both of those reports and I will attach copies to this submission.

I suspect that SCAQMD probably also has gas composition reports from other oil production sites, including the Baldwin Hills and Santa Fe Springs because flares have been permitted for both facilities.

The Wilmington Site has been flaring the majority of its produced gas because up until now it has not had processing equipment and an arrangement to sell any gas to SoCalGas. The Btu rating of gas at Wilmington has clocked in between 1019 and 1032, which is in the range of pipeline gas. It is low in sulfur and other impurities. However, now that Wilmington is supposed to start selling gas to SoCalGas sometime soon, the gas that Wilmington will send to its flares will have a different composition likely to include heavier hydrocarbons and a higher Btu, but not more impurities.

Since 1986, the Murphy site has sold almost all of its gas through SoCalGas's distribution system (along with gas from its sibling Jefferson and 4th Ave sites, though 4th Ave has been idle since 2010). Before 1986 all gas from all three sites was reinjected at Murphy. The Murphy site has never had a flare. In 2011, however, SoCalGas applied to CPUC for a change to SoCalGas Rule 30 that would end historical exemptions from non-H2S gas composition requirements; this rule turns on the Wobbe index and essentially prohibits gas with a Btu higher than 1150 from being input into the distribution system. In 2014 the CPUC approved the rule change, to be implemented by the end of 2016. Largely because of the proposal to change Rule 30 that was submitted to CPUC in 2011, the operator of Murphy applied to SCAQMD in 2012 for a permit to install a flare for the first time ever. In that application the operator submitted a study of the tail gas it was already burning in microturbines as indicative of the gas that it would be burning in the flare it desired to install: 1463 Btu, and low in impurities.

22-2 Con't

Second, there are a wider range of alternative solutions for oil & gas production sites as compared to bio-gas sites.

Only oil and gas production sites would be suitable for gas injection wells to store gas in the hydrocarbon geology from which it was pumped up. Gas injection wells have been used for many decades. In addition to storing the gas for later use, re-injection is a form of secondary recovery for oil, which increases oil production. The Murphy Site has a permitted and operational gas injection well that was given an extensive workover in 2011-12. Well sites that do not currently have a gas injection well could add one. Reinjection has costs and produces no direct revenue, much like the reinjection of produced water. But it does have some value in secondary recovery of oil and a clean solution to the problems of produced water and gas that cannot be sold is simply a necessity.

Oil and gas production sites are far more suitable for Gas-to-Liquids (GTL) platforms that convert gas into liquid fuel that can be mixed with crude and piped to refineries. The GTL process is 90 years old and proven. In recent decades several companies have focused on reducing the scale of GTL platforms to make them viable as solutions to avoid flaring at isolated well sites. Several manufacturers now make mini-GTL platforms that would be suitable for well sites in the LA Basin. For example, Greyrock Energy based in Sacramento makes platforms that can process 250 mcf/day into 20 barrels of liquid fuel, and platforms that turn 500 mcf/day into 40 barrels of liquid fuel. This GTL platform steam reforms natural gas into syn-gas, a process that burns a small quantity of gas to create the needed heat; burning a few mcf/day will produce far less in emissions than flaring 500 mcf/day.

3

Microtrubine and fuel cell solutions are also easier to implement at production well sites than at bio-gas sites because the gas quality is more consistent and there is no need to raise the Btu level of the gas. CARB certified microturbines from Capstone outperform CEB flares in emissions, and fuel cells can be near zero emission.

But CMB-03 continues to treat all sources of waste gas as if they are the same.

When CMB-03 discusses the potential use of waste gas as transportation fuel, it assumes the Btu level will need to be raised: "Utilization of waste gas as a transportation fuel can be both economically and environmentally beneficial. The gas would be required to undergo treatment to remove any impurities, such as sulfur and siloxanes, and to raise the heating value to specification." (IV-A-69) The assumption that the Btu level would need to be raised clearly comes from focusing on landfills and sewage plant sources. It is not a problem with gas from production well sites.

CMB-03 also emphasizes the need to clean gas before it is used in fuel cells. Indeed, fuel cells are sensitive to impurities, but CMB-03 still does not distinguish between very impure and inconsistent gas from bio-gas sources as opposed to the already much cleaner and much more consistent gas from production wells.

22-2
Con't

Third, bio-gas sources and production wells are very different operationally, and they have different social, political, and legal contexts.

Bio-gas production is biologically unavoidable. Landfills and solid waste treatment facilities are typically public operations run for public service out of necessity, not for profit. In contrast, gas from oil production is a function of historically developing technologies and choices (both economic and political). Oil production facilitates social uses and social goods, but it a privately run and historically profitable industry.

More crucially at this moment, the sensible change to SoCalGas Rule 30 stands to prompt an increase in flaring at production well sites because the rule change makes a substantial portion of locally produced gas unmarketable through the SoCalGas distribution system. At the Murphy Site, the operator wants to flare off 400MCF/day of gas, which is about 40% of the total peak daily production from Murphy and Jefferson combined.

SoCalGas and the CPUC passed the Rule 30 change to protect end users and the environment. They never thought of the unintended consequence that this would lead to a big increase in flaring. CPUC staff were shocked when I told them that flaring was the proposed solution for the newly off-spec gas at Murphy.

Oil and gas production sites will also be facing further gas composition restrictions designed to reduce corrosive agents in the gas stream that degrade pipelines and cause fugitive leaks. The future will make more and more of the associated gas produced from oil wells unmarketable. Without action, oil companies will want to flare it off because flaring is the solution most convenient and most familiar to them.

Oil and Gas production sites have entered a critical phase in which flaring will increase and indeed begin for the first time at sites like Murphy, unless substantial pressures and/or incentives persuade companies to use better technologies. 22-2 Con't

A firmer and more direct regulatory stand against routine flaring at oil and gas well sites is needed and warranted.

I urge you to consider a direct regulatory prohibition of routine flaring at oil and gas production sites. A similar prohibition has been highly successful at refineries.

Refineries have a much more substantial and legitimate need for flares than production sites. Refinery flares have emergency and safety functions; most well sites in the Basin have not had flares at all. Keeping refineries online fulfills a social need; a refinery going off line raises gasoline prices noticeably. The same cannot be said for individual well sites, plus they can achieve any needed redundancy by using a gas injection well to back up the main beneficial use technology for handling gas.

There is simply no necessity for flares at well sites.

Since the early 2000's the California Energy Commission and CARB have talked about creating incentives to substitute microturbines for flares and to use recovered heat from the microturbines to replace boilers. (see attached CEC and CARB studies) But it has not happened. Incentives to reduce flaring at well sites have not moved forward. In fact, available incentives are being reduced.

The Governor's office has committed to eliminating routine flaring at well sites. The June 2016 Appendix on Control Measures now mentions the World Bank initiative, but not the fact that the Governor's office has signed onto the initiative. See the attached copy of Matt Rodriguez's commitment letter to the World Bank. 22-3

Last but not least, the beneficial use alternatives to flaring are profitable. Microturbines and GTL are proven technologies and proven to be profitable. Fuel Cells await their first demonstration use to handle stranded or otherwise unmarketable gas at well sites, but they are proven in far worse environments with poor quality bio-gas.

The oil industry is characterized by boom-bust cycles that tend to devastate the small and medium sized well operators that predominate in the LA Basin region. It has been in a bust phase for the past two years. Beneficial use of waste gas offers the industry a new business model with financial ballast. Well sites use a lot of electricity. The annual bill at Murphy is more than $1 million. Rather than flaring off-spec gas because that is the easiest solution to a problem (as long as it is allowed), oil companies could instead choose a profitable solution. Microturbines would eliminate a well sites electric bill. Fuel cells produce electricity much more efficiently from the same quantity of gas and thus would return more revenue than microturbines. Similarly, the revenue from a GTL system is easy to calculate: a 500 mcf system producing 40 barrels a day would generate fuel worth about $730,000 per year at $50/barrel oil rpices.

5

While flares have zero return on capital because they produce nothing except pollutants and greenhouse gases, all of the beneficial use solutions discussed here would easily reach the break even point within about seven years with no new or special incentive funding.

I understand that the SCAQMD Board is trying to emphasize use of incentives rather than new regulations to meet attainment goals. One does not have to fight against that vision to see that there are some instances where a regulatory prohibition would not only be most cost-effective for meeting air quality goals, but also would be the surest way to produce effective lobbying to get new incentives to offset costs for businesses. Furthermore, in the case of beneficial use alternatives to well site flaring, the beneficial alternatives are economical for the companies, but they need a push to move forward. 22-3

Please take an active role in lobbying for incentives to promote early adoption of beneficial use alternatives to flaring.

The SCAQMD Board's preference to use incentives should increase the importance of lobbying for incentives.

As I mentioned on May 4, the CPUC is in the process of reducing its SGIP rebates for microturbines and fuel cells that use natural gas. The SGIP program makes no distinction between pipeline quality gas and off-spec gas that would be flared. Gas that cannot be sold should be classified (with proper restrictions) as a form of waste gas that is eligible for a higher level of incentives and other credits. 22-4

If regulations prohibiting flaring are not put in place AND if incentives are not provided to push companies toward beneficial use, the flared gas will increase in volume. Flared gas is a pure waste and a pure source of pollutants and greenhouse gases. If used beneficially in microturbines, fuel cells, and/or GTL, there would be lower emissions than would be achieved from the use of CEB flares, and there would be carbon savings from other fuels that would be displaced.

Everyone loses with flaring. Beneficial use alternatives are win-win.

Yours

Michael Salman

Attachment A to Comment Letter #22.:

CalEPA
California Environmental Protection Agency

Edmund G. Brown Jr.
Governor
Matthew Rodriquez
Secretary for Environmental Protection

December 28, 2015

Ms. Anita Marangoly George
Senior Director, Energy and Extractives Global Practice
The World Bank Group
1818 H Street, NW
Washington, DC 20433

Re: Invitation for the State of California to join the "Zero Routine Flaring by 2030" Initiative

Dear Ms. George,

Congratulations on the success of the "Zero Routine Flaring by 2030" Initiative in Paris. On behalf of the State of California, I am pleased to submit this letter as confirmation of California's endorsement of the initiative. We look forward to working with the World Bank to commit to eliminating existing legacy routine flaring no later than by 2030, and to help ensure that new oil fields are developed with plans that include a gas utilization solution without routine flaring or venting.

My agency will be the focal point for further coordination in support of this initiative.

Sincerely,

Matthew Rodriquez
Secretary for Environmental Protection

Attachment

Cc: Mr. Ken Alex
Senior Advisor
California Governor's Office of Edmund G. Brown Jr.

Ms. Aimee Barnes
Deputy Secretary for Border and Intergovernmental Affairs
California Environmental Protection Agency

Richard Corey
Executive Officer
California Air Resource Board

Air Resources Board • Department of Pesticide Regulation • Department of Resources Recycling and Recovery • Department of Toxic Substances Control
Office of Environmental Health Hazard Assessment • State Water Resources Control Board • Regional Water Quality Control Boards

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ANITA MARANGOLY GEORGE
Senior Director
Energy and Extractives Global Practice

December 2, 2015

Mr. Matthew Rodriquez
California Secretary for Environmental Protection
1001 I Street, P.O. Box 2815
Sacramento, CA

Dear Mr. Rodriguez,

Initiative to Reduce Global Gas Flaring:
"Zero Routine Flaring by 2030"

Early this year, United Nations Secretary-General Ban Ki-moon and World Bank President Jim Kim launched a global initiative to end the oil and gas industry practice of wastefully and routinely flaring gas at oil production sites around the world. The "Zero Routine Flaring by 2030" Initiative (attached) aims to eliminate existing "legacy" routine flaring no later than by 2030, and to help ensure that new oil fields are developed with plans that include a gas utilization solution without routine flaring or venting.

We are requesting the State of California join 42 other governments, oil companies, and development institutions (attached with Initiative text) who have endorsed this Initiative. Our ambition is to garner the broadest coalition of leading oil-producing countries and oil companies, thereby establishing its principles as a global industry standard. While the United States government has yet to endorse the Initiative, we believe California could lead the way to a subsequent national endorsement, given the State's climate change mitigation goal of reducing greenhouse gas emissions by 40 percent below 1990 levels by 2030 and further eliminating methane and black carbon from the oil and gas sector.

The "Zero Routine Flaring by 2030" Initiative addresses a major climate change and resource management issue. Flaring at oil production sites around the world causes about 350 million tons of CO_2 emissions every year, and there are also negative impacts from black carbon emissions and un-combusted methane. Furthermore, gas flaring is a waste of energy resources that the world can ill afford. If the gas that is flared globally every year were used for power generation, it could provide about 750 billion kWh of electricity, or more than the African continent's current annual electricity consumption.

We plan to bring a powerful message on climate action through gas flaring reduction to the COP21 and will announce and recognize recent endorsers of the Initiative at an event there on December 7.

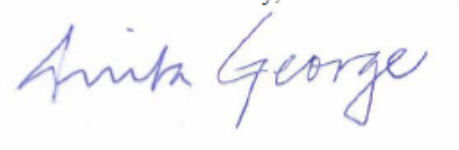
Although the Initiative is not a legally binding document, oil companies have already made it clear that it will have real impact on their upstream business going forward. The many leading international oil companies that already have a no-flaring policy for new field developments consider the Initiative a positive contribution because it will level the playing field: other companies would adopt the same practice and governments would require it.

We would like to confirm the Initiative focuses solely on routine flaring. Thus, non-routine flaring such as during startup, malfunction or maintenance, as well as safety flaring, is not within its scope. Furthermore, routine flaring, as applicable to this Initiative, excludes combustion of hazardous or polluting emissions such as volatile organic compounds and hydrogen sulfide. Nevertheless, these emissions should be minimized.

Please let us know if you have questions or would like additional information about the Initiative, by email, teleconferencing or visit by our experts.

We remain hopeful that California will endorse this important Initiative and look forward to hearing from you soon.

Sincerely,



Anita Marangoly George
Senior Director
Energy and Extractives Global Practice

Attachment: "Zero Routine Flaring by 2030" Initiative with list of current endorsers

Website: www.worldbank.org/zeroroutineflaring

Contact: Francisco J. Sucre
World Bank
fsucre@worldbank.org
202-473-5479

Initiative to Reduce Global Gas Flaring: "Zero Routine Flaring by 2030"

During oil production, associated gas is produced from the reservoir together with the oil. Much of this gas is utilized or conserved because governments and oil companies have made substantial investments to capture it; nevertheless, some of it is flared because of technical, regulatory, or economic constraints. As a result, thousands of gas flares at oil production sites around the globe burn approximately 140 billion cubic meters of natural gas annually, causing more than 300 million tons of CO_2 to be emitted to the atmosphere.

Flaring of gas contributes to climate change and impacts the environment through emission of CO_2, black carbon and other pollutants. It also wastes a valuable energy resource that could be used to advance the sustainable development of producing countries. For example, if this amount of gas were used for power generation, it could provide about 750 billion kWh of electricity, or more than the African continent's current annual electricity consumption. While associated gas cannot always be used to produce power, it can often be utilized in a number of other productive ways or conserved (re-injected into an underground formation).

This "Zero Routine Flaring by 2030" initiative (the Initiative), introduced by the World Bank, brings together governments, oil companies, and development institutions who recognize the flaring situation described above is unsustainable from a resource management and environmental perspective, and who agree to cooperate to eliminate routine flaring no later than 2030.

The Initiative pertains to routine flaring and not to flaring for safety reasons or non-routine flaring, which nevertheless should be minimized. Routine flaring of gas is flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilize it on-site, or dispatch it to a market. Venting is not an acceptable substitute for flaring.

Governments that endorse the Initiative will provide a legal, regulatory, investment, and operating environment that is conducive to upstream investments and to the development of viable markets for utilization of the gas and the infrastructure necessary to deliver the gas to these markets. This will provide companies the confidence and incentive as a basis for investing in flare elimination solutions. Governments will require, and stipulate in their new prospect offers, that field development plans for new oil fields incorporate sustainable utilization or conservation of the field's associated gas without routine flaring. Furthermore, governments will make every effort to ensure that routine flaring at existing oil fields ends as soon as possible, and no later than 2030.

Oil companies that endorse the Initiative will develop new oil fields they operate according to plans that incorporate sustainable utilization or conservation of the field's associated gas without routine flaring. Oil companies with routine flaring at existing oil fields they operate will seek to implement economically viable solutions to eliminate this legacy flaring as soon as possible, and no later than 2030.

Development institutions that endorse the Initiative will facilitate cooperation and implementation, and consider the use of financial instruments and other measures, particularly in their client countries. They will endeavor to do so also in client countries that have not endorsed the Initiative.

Governments and oil companies that endorse the Initiative will publicly report their flaring and progress towards the Initiative on an annual basis. They also agree to the World Bank aggregating and reporting the same.

The parties that endorse the Initiative acknowledge that its success requires all involved – governments and oil companies, with the support of development institutions – to fully cooperate and take the action described herein to eliminate routine flaring no later than 2030.

The following governments endorse the Initiative:

Angola
Cameroon
Republic of Congo
France
Gabon
Germany
Kazakhstan
Mexico
Netherlands
Norway
Peru
Russian Federation
Turkmenistan
Uzbekistan

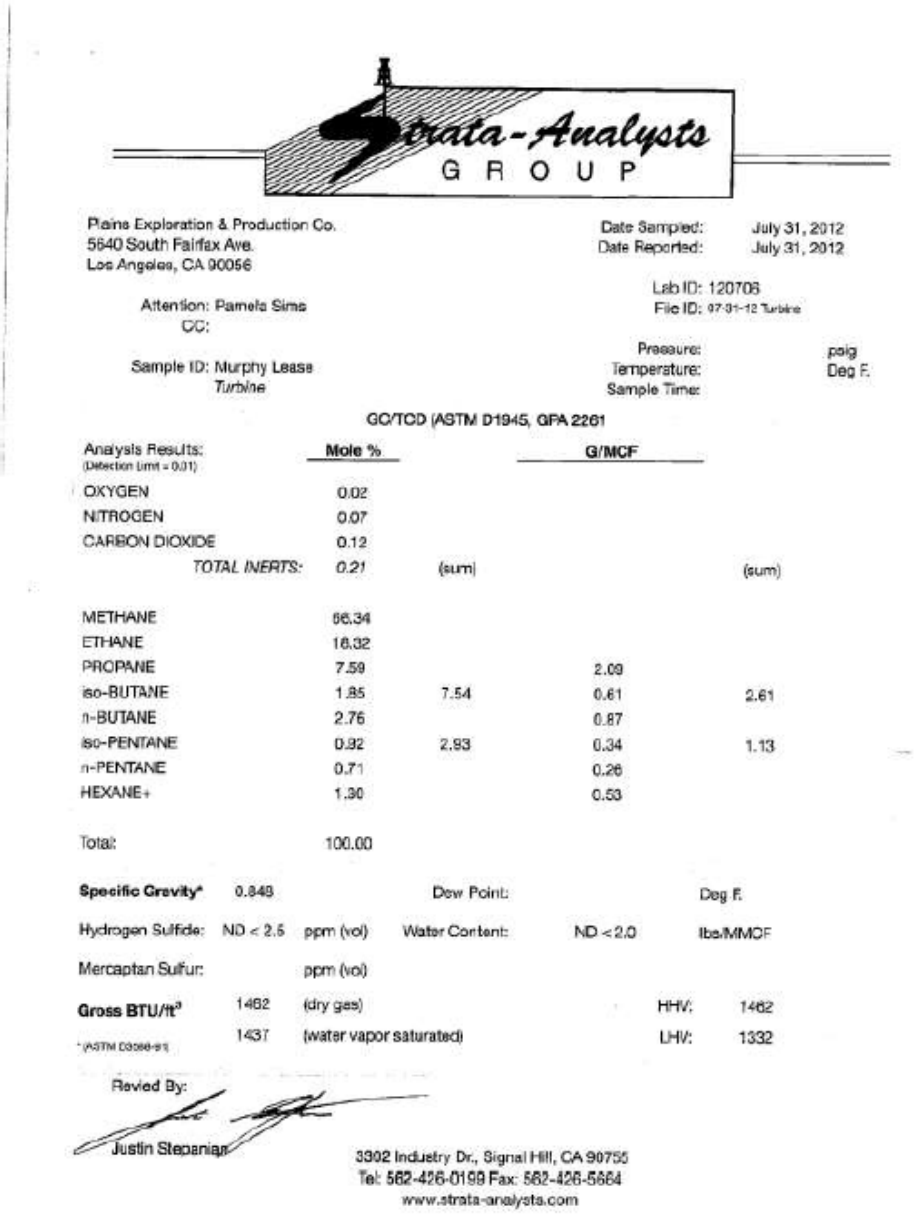
The following oil companies endorse the Initiative:

BG Group
BP
Eni
Entreprise Tunisienne d'Activités Pétrolières (ETAP – Tunisia)
KazMunayGaz (Kazakhstan)
Kuwait Oil Company
Niger Delta Petroleum Resources Ltd. (Nigeria)
ONGC (India)
Petroamazonas EP (Ecuador)
Royal Dutch Shell
Societé Nationale des Hydrocarbures (SNH – Cameroon)
Societé Nationale des Petroles du Congo (SNPC)
Sonangol (Angola)
State Oil Company of the Azerbaijan Republic (SOCAR)
Statoil
TOTAL
Wintershall

The following development institutions endorse the Initiative:

African Development Bank (AfDB)
Agence Française de Développement (AFD)
Asian Development Bank (ADB)
ECOWAS Bank for Investment and Development (EBID)
European Bank for Reconstruction and Development (EBRD)
Inter-American Development Bank (IDB)
Islamic Development Bank (IsDB)
OPEC Fund for International Development (OFID)
United Nations Sustainable Energy for All (SE4ALL)
West African Development Bank (BOAD)
World Bank Group

Attachment B to Comment Letter #22:



Strata-Analysts GROUP

Plains Exploration & Production Co.
5640 South Fairfax Ave.
Los Angeles, CA 90056

Date Sampled: July 31, 2012
Date Reported: July 31, 2012

Lab ID: 120706
File ID: 07-31-12 Turbine

Attention: Pamela Sims
CC:

Sample ID: Murphy Lease
Turbine

Pressure: psig
Temperature: Deg F.
Sample Time:

GC/TCD (ASTM D1945, GPA 2261

Analysis Results: (Detection Limit = 0.01)	Mole %		G/MCF	
OXYGEN	0.02			
NITROGEN	0.07			
CARBON DIOXIDE	0.12			
TOTAL INERTS:	*0.21*	(sum)		(sum)
METHANE	66.34			
ETHANE	16.32			
PROPANE	7.59		2.09	
iso-BUTANE	1.85	7.54	0.61	2.61
n-BUTANE	2.76		0.87	
iso-PENTANE	0.92	2.93	0.34	1.13
n-PENTANE	0.71		0.26	
HEXANE+	1.30		0.53	
Total:	100.00			

Specific Gravity* 0.848 Dew Point: Deg F.

Hydrogen Sulfide: ND < 2.5 ppm (vol) Water Content: ND < 2.0 lbs/MMCF

Mercaptan Sulfur: ppm (vol)

Gross BTU/ft³ 1462 (dry gas) HHV: 1462

1437 (water vapor saturated) LHV: 1332

* (ASTM D3588-91)

Revied By:

Justin Stepanian

3302 Industry Dr., Signal Hill, CA 90755
Tel: 562-426-0199 Fax: 562-426-5664
www.strata-analysts.com

Attachment C to Comment Letter #22: OffGases Project Oil-Field Flare Gas Electricity System, PEIR Final Project Report, California Energy Commission, December 2008, CEC-500-2008-084. (Hyperlink inserted)

Attachment D to Comment Letter #22:

3/26/13 WARREN CEB SOD S/T RESULTS - SUMMARY JAN 2012

1.0 INTRODUCTION (Continued)

Table 1-2
SUMMARY OF TEST RESULTS
Warren E&P
WTU Flare
January 18, 2012

PARAMETER	INLET	EXHAUST	PERMIT LIMIT
		As Found	
O_2, %	0.00	8.06	
CO_2, %	6.33	7.70	
N_2, %	0.91	84.28	
H_2O, %		11.9	
flow Rate, wet/m (Facility flow monitor)	224.16	1,742	
flow Rate, dry/m (Facility flow monitor)	224.16	1,507	
Temperature, °F (as measured at sampling port)	83.4	1,049	
Temperature, °F (as measured at by set thermocouple		2,195	>1400
lbs/scf	1032		
MMBtu/Hr	33.88		17
NOx:			
ppm		4.96	
ppm @ 3% O_2		6.08	15
lb/hr (as NO_2)		0.12	
lb/day (as NO_2)		2.9	
lb/MMBtu (as NO_2)		0.009	
lb/MMCF (as NO_2)		0.88	
CO:			
ppm [1]		2.3	
ppm @ 3% O_2		3.2	10
lb/hr		0.03	
lb/day		0.82	
lb/MMBtu		0.002	
lb/MMCF		2.53	
Hydrocarbons:			
CH_4, ppm	901400	< 10.00	
TGNMO, ppm (as CH_4)	135.98	1.35	
TGNMO, lb/hr (as CH_4)	66.6	0.01	
TGNMO, lb/MMBtu (as CH_4)	-	0.001	
TGNMO, lb/day (as CH_4)	1374.5	0.27	
TGNMO, ppm @ 3% O_2 (as CH_4)		1.88	10
Destruction Eff. % (DRE)		99.98	98
lb/MMCF		0.81	7
Particulate (as PM_{10})			
gr/dscf		0.0004	0.112
lb/hr		0.049	
lb/MMBtu		0.004	
lb/day		1.17	
lb/MMCF		3.61	
Total Sulfur Compounds,			
Total Reduced Sulfur Inlet, ppm	< 1.92		
SOx Exhaust, lb/hr (as H_2S) [2]		< 0.0023	
SOx Exhaust, lb/day (as H_2S) [2]		< 0.06	5
lb/MMCF		< 0.17	

Notes
The results in this table are the averages of all measurements.
(1) Values presented fell below 20% of the selected analyzer range. A low level CO calibration gas (9.02ppm) was introduced to the analyzer to quantify measurements below 20% of scale.
(2) The exhaust SOx lb/hr and lb/day results are calculated from inlet reduced sulfur concentrations.

Attachment E to Comment Letter #22:

Draft White Paper
Potential GHG Reductions from Clean Distributed Generation Technologies at Oil and Natural Gas Facilities

The purpose of this paper is to present staff's draft findings regarding the potential to use clean distributed generation (DG) technologies to generate electricity from fuel that currently is being flared in the production of oil and natural gas and to estimate the corresponding potential for emission reductions. Staff utilized existing data that Air Resources Board (ARB) has collected from oil and natural gas facilities via a survey of these facilities that was conducted in 2009. The survey was not designed to address the issue of using clean DG technologies in lieu of flaring. As such, the analysis has some limitations due to the nature of the data that was available. The assumptions used in the calculations and some of the data limitations are addressed further in the body of the paper.

Background

Gas, mainly methane and carbon dioxide (CO_2) is typically produced when oil is extracted from oil fields. This associated gas is separated from the oil and depending upon the quality and quantity of the gas, can be processed to be added to a natural gas pipeline, used as fuel for equipment at the facility, flared, or re-injected into the oil field. For the gas that is flared, staff evaluated the potential for using clean DG technologies in place of flaring thus harnessing this energy for a useful purpose (thermal or electricity) with a corresponding reduction in emissions. The evaluation also includes an estimate of the electricity potentially produced from combusting the gas that would otherwise be flared, as well as the associated impact on emissions of greenhouse gas and criteria pollutants. Additionally, natural gas is flared at some natural gas facilities. Thus, in addition to considering the potential to utilize flared gas from oil fields, staff also considered the potential for redirecting flared gas from natural gas facilities for use with clean DG technologies.

Clean DG technologies are electrical generating technologies that have very low criteria pollutant emissions[1]. Examples of clean DG technologies include microturbines, fuel cells, and a thermal oxidizer integrated with a microturbine. The estimates given in this paper are based on the best available information. Additional research including site-specific field data would be needed to refine the assumptions used in the analysis.

[1] Many of the technologies have been certified via ARB's Distributed Generation Program (sections 94200-94214 of the California Code of Regulations) to have emissions that are no greater than the emissions that would be emitted by a new combined cycle power plant equipped with Best Available Control Technology

Basis of Data Used For Analysis

This analysis is based on the results of a comprehensive ARB survey (2009) regarding oil and gas drilling and production activity during 2007[2]. The survey was completed by 325 companies representing over 1,600 facilities, and represents all activities associated with finding, producing, processing, transporting, and storing oil and natural gas.

Staff used the survey results from facilities using vapor recovery and flares. The survey requested information on the type of control device and the amount of gas that is burned in flares, thermal oxidizers, and incinerators. Based on the survey results, there are a total of 255 control devices (flares, thermal oxidizers, incinerators, carbon adsorbers, etc.) located at 178 facilities.

Staff evaluated the survey results to establish the possible sources of gas to fuel DG technologies from these facilities. Sources of gas were grouped according to facility type and control device technology for evaluation. Staff found that many of the types of facilities or control devices reported in the survey were not suitable for supplying gas to clean DG technologies. In these cases, these facilities or control devices were excluded from the DG evaluation. For example, staff evaluated the likelihood that the flared gas is either an intermittent flow or constant flow. Flared gas that is expected to be intermittent was excluded from the DG evaluation because most clean DG units require a constant flow of fuel to operate efficiently. Table 1 lists the facility types and control devices that are included in the survey results, but excluded from staff's DG evaluation and the reason for the exclusion.

[2] http://arb.ca.gov/cc/oil-gas/oil-gas.htm

Table 1
Categories Excluded From Oil and Natural Gas Clean DG Evaluation

Category Excluded From Evaluation	Reason for Exclusion
Carbon absorbers	Gas collected is typically not flared
Utility natural gas transmission stations	Flaring activity is intermittent, based on maintenance needs or emergency event; need steady flow of gas for DG
Natural gas storage facilities	Flaring is intermittent, based on maintenance needs or emergency event; need steady flow of gas for DG
Crude oil storage facilities	Gas associated with the oil is removed before reaching storage facilities; limited flaring of gas
Gas Plants	Flaring activity is intermittent, based on maintenance needs or emergency event; need steady flow of gas for DG
Off-shore facilities	Infrastructure needed to connect from platform to grid not cost effective
Flares with no reported gas usage	Assume activity would not provide steady gas flow needed for DG

Staff notes that the gas plants, as a category, flared the largest amounts of gas; however, most of the flared gas was the result of normal maintenance, which occurs infrequently, and therefore, would not be a good candidate for DG applications.

After excluding the above facilities and control devices, staff focused its evaluation on 124 combustion devices located at 88 facilities for suitability of using clean DG in lieu of flaring. The amount of gas flared by this group represents about 1/3 of the total gas flared for all sources documented to flare gas in the survey. Based on the limitations of the available data, staff views this as an approximation of the gas potentially available for DG applications. Refining the estimate would require more detailed site-specific information which is the beyond the scope of this evaluation.

Results

Using ARB Oil and Gas Field Survey results, staff determined whether there was sufficient gas flow, in terms of British thermal units (Btus) per hour, at each location identified in the survey to support at least one clean DG unit operating at 85 percent of its capacity. Staff assumed this to be the typical operating capacity for DG-sized generating equipment over the course of one year. If there was not enough gas to support the DG unit, then for the purposes of this analysis, the gas would continue to be flared. By considering the application of relatively small DG systems, such as a 65 kW microturbine, staff determined that half of the 124 flares could support that technology at 40 different facilities. However, only about a third of the flares processed enough associated gas to support one of the larger clean DG units shown in Table 2 below.

Overall, if clean DG units are used instead of the flares, about 100,000 to 200,000 megawatt-hours (MWh) of electricity could be generated from 14 to 28 megawatts (MW) of total potential generation capacity. This amount of electricity is equivalent to serving between 15,000 and 30,000 homes[3]. The lower end of the range is based on the assumption that all the gas is utilized in thermal oxidizer-microturbine hybrid devices, while the upper end of the range is based on using more efficient 400 kW fuel cell devices.

Table 2 estimates the potential emission reductions for two cases: 1) electrical generation only and 2) combined heat and power (CHP) applications using a variety of clean DG technologies. Additional reductions resulting from more efficient CHP applications are only considered for those locations that have onsite thermal needs based on responses to the survey. For CHP applications, staff assumed clean DG can only be used to displace onsite heating applications that do not require steam. For example, staff assumed the heat from a CHP application can be used in place of the heat provided by heater treaters or oil heaters.

In the table, the potential emission reductions of oxides of nitrogen (NO_x), volatile organic compounds (VOC), and greenhouse gases (GHGs) are reported for each type of clean DG system. For example, the first row reflects estimates for the potential reductions if only 65 kW microturbines are used to generate electricity and provide CHP at the sites that can support this size turbine. The lower emission reduction estimate is for electrical production only and the higher estimate includes CHP. Criteria pollutant emission reductions are based on the difference between emissions from the flaring/burning of the associated gas and the emissions from the clean DG system and the emissions from any remaining associated gas that would be flared/burned. Additional reductions would come from CHP if there are heater treaters or oil heaters at the location and electricity is displaced from the grid. GHG emission reductions are based on the difference in GHG emissions between the flare and clean DG unit, the potential for CHP application (e.g., replacement of heater treaters), and the displacement of electricity from the grid.

[3] Based on United States Energy Information Administration estimate for the electricity used by an average California home

The estimates are based on the assumption that the gas flows are constant (the survey results provided the annual amount of gas flared). If the flows vary, which is likely, then the DG units, particularly fuel cells, may need to be sized to match the lowest flow rate or provide for storage, which would lower the energy production and emission reductions shown in the table below. Additionally, site specific issues may also reduce the available amount of gas that can be used in a clean DG unit.

Table 2
Potential Emission Reductions of Different Clean DG Technologies to Utilize Gas that is Currently Flared*

Equipment	Size (kW)	Potential DG Sites / Units	NO_x (TPY[4])	VOC (TPY)	GHG (kMT/yr)[5]
Microturbine	65	40 / 282	53 – 65	10 – 12	62 – 102
Microturbine	250	17 / 60	49 – 58	<1 – 2	51 – 83
Thermal Oxidizer / microturbine	250	17 / 56	54 – 54	3 – 3	49 – 49
Fuel Cell	300	22 / 93	70 – 74	5 – 6	108 – 122
Fuel Cell	400	17 / 56	56 – 63	2 – 4	72 – 96

* Lower end of ranges based on electricity generation only, while the higher end is based on potential for CHP applications.

Staff understands that significant amounts of gas may be re-injected back into the underground reservoir from which the oil or gas came. Using this gas instead for power generation and thermal load could result in additional reductions. Finally, ARB is considering developing a measure for controlling storage tanks that are currently exempt from emission control requirements. If this measure was developed, additional gas could be available to power clean DG units that could garner additional emission reductions.

Summary

This paper presents staff's draft findings regarding the potential to use clean DG to generate electricity from fuel that is flared in the production of oil and natural gas and the resulting potential for emission reductions of GHG and criteria pollutants. Staff utilized existing data from an oil and natural gas facilities survey conducted in 2009. However, the survey was not designed to address the issue of using clean DG technologies in lieu of flaring. As such, the analysis had some limitations due to the nature of the data that was available. Additionally, staff did not estimate the cost or the

[4] TPY stands for standard tons per year
[5] kMT/yr stands for thousand metric tons of CO_2 equivalent emissions per year

cost effectiveness of using clean DG as costs are highly site-specific due to the nature of capturing/directing gas to DG technologies.

If clean DG units are used to combust associated gas from oil and natural gas production, the amount of gas flared is estimated to support between 14 to 28 MW of DG generating about 100,000 to 200,000 MWh per year. This is equivalent to the amount of electricity that could serve between 15,000 and 30,000 homes.

Utilizing these DG units would also result in reductions in NO_x (50 to 75 TPY), VOC (up to 12 TPY) and GHG (50 to 122 kMT/yr) emissions. These emission reductions would be equivalent to removing about 15,000 to 35,000 new cars from the road.

Responses to Comment Letter from Michael Salman
(Comment Letter #22)

Response to Comment 22-1:

Thank you for supporting CMB-03 which is proposed as a regulatory measure to address non-refinery flaring.

Response to Comment 22-2:

Staff acknowledges that there are different technology options and challenges with the different source categories included in CMB-03 (oil and gas, landfill, and wastewater treatment). Each source category may require a different approach with the overall goal of reducing NOx and other emissions from non-refinery flares. Once a working group is established, a more detailed discussion on the different methods or alternatives to flaring waste gas from each source category will be determined and addressed.

Response to Comment 22-3:

Staff will be pursuing paths to reduce routine flaring at oil and gas facilities and require any flaring that does occur to have the most stringent emissions limits feasible.

Response to Comment 22-4:

Staff will lobby for incentive funding to ensure the success of incentive measures. These incentive measures are designed to encourage facilities to transition to zero and near-zero emission technologies. A Financial Incentive Funding Action Plan is currently under development that will provide more detail as to the possible sources of funding available.

Comment Letter from Los Angeles County Business Federation (Comment Letter #24)

Los Angeles County Business Federation

Strengthening the Voice of Business

August 18, 2016

Michael Krause
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

Re: Draft 2016 Air Quality Management Plan

Dear Mr. Krause:

We are writing on behalf of the Los Angeles County Business Federation (BizFed) - a grassroots alliance of more than 155 top business groups representing 275,000 employers with 3 million employees throughout Los Angeles County. Our members include large and small employers, minority business owners, and job creators from a wide range of industries.

We appreciate the opportunity that the South Coast Air Quality Management District (SCAQMD or District) gave our members to participate in working groups that led to the development of White Papers for the 2016 Air Quality Management Plan (AQMP or Plan). Now that the District has released its Draft 2016 AQMP, we take this opportunity to comment formally on the Plan's proposed programs and control measures. 23-1

SCAQMD Should Prioritize Technical Improvements to Enhance the Accuracy of its Photochemical Modeling Ozone Reduction Predictions

Community Multi-scale Air Quality (CMAQ) photochemical modeling is the cornerstone of the 2016 State Implementation Plan (SIP) Strategy, and "ARB and the South Coast have been collaborating on air quality modeling to provide estimates of the reductions needed to attain the ozone and PM2.5 standards" (ARB 2016 SIP Strategy, p. 12). Recent studies by Ramboll Environ (26th CRC Real World Emissions Conference) comparing ozone model and monitoring results have shown that the current CMAQ modeling may appreciably underestimate past and future ozone reductions in the South Coast Air Basin. Therefore, we believe it is of critical importance to enhance the accuracy of the District's predictive modeling tools. 23-2

Specifically, the Ramboll Environ analysis that has been discussed with ARB and SCAQMD staff over the last few months shows that, dating back to 1990, monitored ozone levels have declined at a rate (ppb/year) that is 2 times faster than the CMAQ-modeled levels. Over a more recent time period (2008-2014), the observed and monitored trend in the reduction of ozone (again, on a ppb/year basis) has been 2 to 8 times faster than the CMAQ-predicted trend. As a result, the 2012 and 2007 AQMPs have under-predicted reductions in ozone between their respective baseline years and 2015 (i.e., they have over predicted absolute ozone levels when compared against measured 2015 levels). Based on the documented, historical inaccuracies of the CMAQ modeling, the ability of the 2016 AQMP to make accurate predictions of ozone reductions between 2012 and 2023 (or 2031) should be carefully considered; and, needed technical improvements should be identified and implemented as soon as possible. Validation of models against past measured ozone levels should be seriously considered.

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While likely evident, we must underscore that this is not simply an academic concern. The costs of further under-predicted reductions would be extremely high. SCAQMD's preliminary cost summary for the Draft 2016 AQMP's control measures is $38 billion (2017 present value), which includes almost $14 billion in incentives, between 2017 and 2031. If future ozone reductions are under-estimated (leading to an over-estimation in needed reductions), perhaps dramatically, then standards imposed on the regulated community and incentive funds may be unnecessarily large.

The District has a well-earned reputation of being on the forefront of regulatory emissions and photochemical modeling science. BizFed recommends that SCAQMD dedicate funding and staff resources to work with ARB and industry technical experts on an expedited basis, with resolution of these issues in 2017 being a priority. Ultimately, these issues may not be resolved in the timeframe of the 2016 AQMP development; at a minimum, however, they should be acknowledged in control strategy commitments to USEPA. In addition, the public should be allowed at least one-month (30 days) to review and comment on Appendix V, entitled "Modeling and Attainment Demonstrations," of the Draft AQMP upon its issuance. 23-2 Con't

The Overall Policy Framework Should Prioritize Cost-Effective, Non-Regulatory, and Innovative Approaches to Emission Reductions

BizFed is supportive of an AQMP establishing a policy framework that prioritizes non-regulatory, innovative approaches to emission reductions that are cost-effective and minimize operational disruptions. Programs or control measures must allow for and should incentivize voluntary and collaborative approaches to achieving air quality goals. Furthermore, we believe that an AQMP should not be punitive, especially as the region has made tremendous strides lowering emissions from stationary and mobile sources. To this end, the Draft 2016 AQMP includes incentives to encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits air quality and the local economy. We support this approach and appreciate the District's efforts to partner with industry. 23-3

Currently, the Plan estimates that the amount of incentive funding needed is approximately $11 – 14 billion over a seven to fifteen-year period. We urge the District to provide additional information as to how much funding has been secured, how much funding has yet to be obtained, and the timeline over which the balance of funds is expected to be received and become available for use. BizFed is committed to collaborating proactively with the District to help develop solutions for obtaining the needed funding. We understand that this will take a strong public-private effort, and we look forward to working with SCAQMD on this matter.

BizFed Has Serious Concerns About SCAQMD's Proposals to Control Growth and Indirect Sources

SCAQMD proposes one growth management measure, EGM-01 - Emission Reductions from New Development and Redevelopment Projects, and four "facility-based" mobile source measures: MOB-01 - Emission Reductions at Commercial Marine Ports, MOB-02 - Emission Reductions at Rail Yards and Intermodal Facilities, MOB-03 - Emission Reductions at Warehouse Distribution Centers, and MOB-04 - Emission Reductions at Commercial Airports. These control measures seek to reduce emissions from on- and off-road sources, which are within the exclusive purview of ARB and the U.S. EPA. Importantly, both ARB and the U.S. EPA already have rules and regulations in place for these sources to significantly reduce NOx emissions. According to the Draft 2016 AQMP, "[t]he effect of the rules and regulations are significant, showing reductions of over 67 percent in NOx emissions and close to 60 percent in VOC emissions between 2012 and 2023, even with increases in fleet population." (Draft 2016 AQMP, Chapter 3, p. 3-4.) 23-4

BizFed has serious concerns about the SCAQMD making commitments to the state and federal governments that it will control growth and indirect sources because SCAQMD lacks authority to control growth or overrule local land use decisions, and land use is within the exclusive purview of

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local cities and counties. Furthermore, not only does SCAQMD lack the authority to adopt indirect source rules, such rules would likely have a chilling effect on business development.

Critically, both the District and ARB have acknowledged that the growth management and indirect source control measures are not necessary to meet the requirements of the federal Clean Air Act. Further, there is no emission reduction target for these control measures in the Draft 2016 AQMP, and there is little to no emission reduction benefit from the indirect source control measures. Instead, additional mobile source emission reductions will come from new measures that call for greater emission reductions through accelerated turnover of older vehicles to the cleanest vehicles and equipment currently available and increased penetration of commercially-available near-zero and zero-emission technologies through existing incentives programs. 23-4 Con't

Measures MOB-1 through MOB-4, and MOB-8 Will Negatively Impact Regional Goods Movement and Goods Movement Dependent Industries

We have serious concerns about the effects that the proposed control measures MOB-1 through MOB-4 ("Facility Measures") and portions of MOB-8 ("Fleet Rules") will have on goods movement and goods movement-dependent industries.

BizFed has repeatedly opposed freight facility emission caps and performance targets. The proposed Facility Measures may leave the door open for the adoption of such regulations. These concepts would represent an unprecedented, and legally questionable, expansion of the SCAQMD's regulatory authority of the freight industry at a time when the industry is spending billions of dollars to reduce key pollutants by as much as 99 percent.

We are also concerned about any expansion of the District's Fleet Rules to private trucking fleets, which was already struck down by the United States Supreme Court. 23-5

Facility Measures and Fleet Rules put the region at a competitive disadvantage with the rest of the country because they:

- Push private investments in freight facilities and infrastructure outside of the region.
- Negatively impact wage growth and job creation in a sector that is one of the region's largest providers of working class jobs.
- Create inefficiencies by creating incentive to cite freight facilities outside the region, thereby lengthening vehicle miles traveled to reach Southern California population centers and increasing emissions.
- Create an unnecessary patchwork of regulations as California has already adopted the strictest fleet regulations in the country to meet the basin's needs.

Measure CMB-05 Is Not Needed Due to the December 2015 Amendments to the RECLAIM Program, and Its Reductions Are Unsubstantiated

The Draft AQMP, in control measure CMB-05, proposes a reduction target of 5 tpd from the NOx RECLAIM program by 2031. The presented basis for this measure is to address "issues that arose during recent NOx RECLAIM amendments." (Draft 2016 AQMP, Appendix IV, p. IV-A-77.) 23-6

However, all of the so-called "issues" were addressed by the December 2015 amendments to the RECLAIM program or about to be moot based on pending rulemaking. For example, by its very design, the December 2015 RECLAIM rulemaking will essentially eliminate all previously "unused" RTCs once fully implemented by 2023. The December 2015 rulemaking also features an "off-ramp" for Electrical Generating Facilities at BACT or BARCT, so that remaining RECLAIM facilities will have to meet the Staff's BARCT levels (found in Rule 2002) on a programmatic basis. Staff also is now proposing

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RECLAIM amendments for confiscation of RTCs from shutdown facilities. Further, several other "issues" are no longer valid concerns given the 2015 amendments to RECLAIM. And several of the other concepts (e.g., command-and-control overlays, the role of investors, etc.) are matters of District policy and/or State law, and should be considered beyond the scope of this AQMP.

Given the substantial emission reductions already achieved by the RECLAIM program, and the very large pending reductions being required under the December 2015 amendments, we are very concerned about proposed CMB-05 and the cost burden it would impose on the Southern California economy. Furthermore, Staff has provided no factual basis to support taking 5 tpd of additional reductions out of the NOx RECLAIM program. We strongly recommend this measure be removed from the AQMP. If the district insists on including a RECLAIM control measure in this AQMP, it should be a range since what is included in the AQMP is the minimum commitment to USEPA that must be met. We recommend a range of 0-3 tpd. 23-6 Con't

In closing, as the District moves forward to finalize the 2016 AQMP, the business community that we represent and, we believe, the business community at large remain committed to working with SCAQMD to ensure the Plan fulfills its legal requirements while also protecting and promoting job creation and economic success for Southern California. Thank you for allowing us the opportunity to provide our comments on this important matter.

Sincerely,

Gilbert F. Ivey
BizFed Chair
Former CAO,
Metropolitan Water District

David Fleming
BizFed Founding Chair

Tracy Hernandez
BizFed Founding CEO
IMPOWER, Inc.

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Responses to Comment Letter from Los Angeles County Business Federation (BizFed)
(Comment Letter #23)

Response to Comment 23-1:

Staff thanks for your participation in the development of 2016 AQMP and your comments on the Plan's proposed control measures.

Response to Comment 23-2:

The 2016 AQMP uses a state-of-the-science modeling platform, the most updated emissions inventory and U.S. EPA guidance. The underestimation from the 2012 AQMP has been improved upon based on the newest attainment guidance by U.S. EPA. In addition, EPA requires to use 5-year weighted design value to demonstrate attainment, however, the analysis conducted by other private institutes failed to use the recommended 5-year weighted design value and mislead the results.

Appendix V was released in September 2016 and provided more than 30 days for public review and comment.

Response to Comment 23-3:

Staff appreciates support for the incentives approach. A Financial Incentive Funding Action Plan is currently under development that will provide more detail as to the possible sources of funding available.

Response to Comment 23-4:

The SCAQMD Mobile Source Measures are intended to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures found in Appendix IV-B. The SCAQMD is identified as an implementing agency under these measures. As such, the SCAQMD staff is providing the proposed measures to initiate discussions through a public process to identify actions or develop mechanisms to achieve additional emission reductions.

With regard to the facility-based measures, during the public process, SCAQMD staff will seek input and comments on identifying actions that could be voluntary or regulatory nature. The SCAQMD staff will report to the SCAQMD Governing Board on progress in identifying actions. However, if actions are not identified or incentive funding is not sufficient to achieve additional emission reductions, the SCAQMD staff will recommend to the SCAQMD Governing Board the development of rules within the SCAQMD authority or other enforceable mechanisms. Staff is proposing that a recommendation be made within one year from the adoption of the Final 2016 AQMP. See Response to Comment 23-5 regarding the need for the proposed measures.

Response to Comment 23-5:

As noted in response to Comment 23-4, the proposed measures seek to implement the State Mobile Source Strategy "Further Deployment" measures. The proposed measures do not set a "cap" and the overall AQMP emission reductions needed for attainment is proposed to be used as a goal to initiate discussions on identifying actions to achieve additional emission reductions. While these measures are not assigned specific emission reduction goals, staff believes they are still necessary to help implement the State SIP Strategy "Further Deployment" measures in the AQMP. Identified emission reductions will

be credited in the SIP as part of future Rate-of-Progress reporting and future AQMP revisions if the emission reductions are considered surplus, quantifiable, and permanent. If the emission reductions are to be placed into the SIP, U.S. EPA requires that an enforceable commitment be made to ensure that the reductions are permanent.

As part of the public process, the SCAQMD staff will be evaluating the need to adopt rules to help implement this measure.

SCAQMD staff appreciates the comments regarding competitiveness. It is for these reasons that staff believes that a public process to identify actions, including those that are already being implemented by businesses and industry, that potentially have criteria pollutant emission reduction benefits and providing funding incentives to assist fleets to replace older vehicles and equipment will help reduce any potential competitiveness concerns. Conversely, the region bears the health costs of serving as the nation's key gateway for imported goods, and it is important to reduce these impacts to the extent feasible without undue socioeconomic impact. The socioeconomic impact assessment details anticipated impacts and benefits from implementing the 2016 AQMP.

Response to Comment 23-6:

Under state law, the SCAQMD is required to conduct periodic BARCT assessments as pollution control technologies advance over time. Under the proposed control measure, this BARCT re-assessment would occur out into the future and well beyond the recent 2015 amendments to the program. Potential technologies that were identified in the December 2015 amendments would have further matured and based on past amendments, the control measure's emission reduction target is reasonable. This notwithstanding, the control measure also proposes a serious consideration for an orderly sunsetting of the RECLAIM program in order to create more regulatory certainty, reduce compliance burdens for facilities, and achieve more SIP-creditable emission reductions.

Comment Letter from Los Angeles County Metropolitan Transportation Authority (Comment Letter #24)

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

August 18, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copely Drive
Diamond Bar, CA 91765

Re: Draft 2016 Air Quality Management Plan

Dear Dr. Fine:

Thank you for the opportunity to review the South Coast Air Quality Management District (AQMD) Draft 2016 Air Quality Management Plan (AQMP). We have been pleased to have participated in the AQMP Advisory Group over the last several years as the AQMD has worked to address the challenging air quality issues facing our air basin.

Metro is pleased to be a partner in working toward the attainment of air quality and greenhouse gas reduction goals through an ambitious long range planning effort that includes significant transit, active transportation, and demand management programs. These programs have been major contributors to the region's efforts to attain both federal air quality conformity requirements and state greenhouse gas reduction goals of SB 375. Additionally, Metro is a leader in operating clean fuel transit vehicles, currently operating the largest clean fuel fleet in the North America, with over 2,000 clean fuel buses. 24-1

We commend the AQMD for a Draft AQMP that is generally well written. As you have stated in this Draft AQMP, it is clear that fair-share emission reductions at the federal and state levels are important in reaching federal air quality requirements. Our comments on the Draft 2016 AQMP are as follows:

- In Appendix IV-B, page 30 (incorporated from the Advanced Clean Transit Measure (ACT) from the Air Resources Board's 2016 Mobile Source Strategy) – We support the "flexibility to allow transit fleets to implement advanced technology in ways that are synergistic with their operations." If the rule that results from the ACT measure restricts transit agencies to turnover their clean CNG fleets to electric or fuel-cell buses, the cost of doing so would significantly reduce service, impacting disadvantaged communities that we serve as well as our ability to meet federal air quality conformity requirements. There are also operational considerations associated with a mandate for specific fleet technologies given the demands of our extensive territory and the current state of technology. 24-2

- Page ES-8 of the Draft AQMP begins the discussion of using public funding incentives to meet the NOx emission reductions needed to attain federal ozone air quality standards (estimated at $11 billion to $14 billion over a seven to fifteen year period). Incentive funding and other dedicated funding programs are necessary in order to meet requirements for increasingly cleaner transit vehicles, infrastructure and training. 24-3

If you have any questions, please contact Brad McAllester, Executive Officer, Long Range Planning at 213 922-2814.

Sincerely,

Therese McMillan
Chief Planning Officer

cc: Hasan Ikhrata, SCAG Executive Director

Responses to Comment Letter from Los Angeles County Metropolitan Transportation Authority (Metro) (Comment Letter #24)

Response to Comment 24-1:

Staff appreciates the comment and will work closely with the transit agencies to help attain air quality standards for the region.

Response to Comment 24-2:

Staff appreciates the comment and looks forward to working with the transit agencies as CARB develops the Advanced Clean Transit regulation. Your comments will be forwarded to CARB.

Response to Comment 24-3:

Staff appreciates the comment. We look forward to working with Metro and other stakeholders in identifying additional incentives funding. Staff is preparing the Funding Plan to accompany the 2016 AQMP which further identifies potential incentive funding sources.

Comment Letter from San Bernardino Associated Governments (Comment Letter #25)

Governments
SANBAG
Working Together

San Bernardino Associated Governments
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TRANSPORTATION MEASURE I

- San Bernardino County Transportation Commission
- San Bernardino County Transportation Authority
- San Bernardino County Congestion Management Agency
- Service Authority for Freeway Emergencies

August 18, 2016

Mr. Wayne Nastri
Acting Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: San Bernardino Associated Governments' (SANBAG's) comments on the draft 2016 Air Quality Management Plan (AQMP)

Dear Mr. Nastri:

This letter is in response to the opportunity being provided by the South Coast Air Quality Management District (SCAQMD) for comment on the draft 2016 AQMP released on June 30, 2016. SANBAG greatly appreciates the effort that went into the preparation of the draft AQMP by SCAQMD, the California Air Resources Board (ARB), and the Southern California Association of Governments (SCAG).

The first part of the letter provides some general comments on the objectives of the AQMP, followed by several comments on selected sections. It is our understanding that a second draft will be provided following this initial comment period and that there will be additional opportunity for comment on that draft.

As you are aware, southwestern San Bernardino County has some of the worst air quality in the United States. Like other counties in the South Coast Air Basin, we are very concerned about air quality and are committed to making further improvements together with SCAQMD, ARB, and the private sector. SCAQMD and your partners in the region have made tremendous progress in improving air quality in the last several decades, especially for the most impacted areas such as San Bernardino County. This progress needs to continue. 25-1

At the same time, air quality standards and timelines need to be achievable in ways that do not set back the San Bernardino County economy. Over 20 percent of our labor force derives its living from the logistics sector, which is often cited as a primary source of the NOx emissions that contribute to ground-level ozone concentrations. As we move forward with air quality improvements, we must pay attention to the dual objectives of cleaning the air while also promoting a vibrant economy. A vibrant economy is needed to support the technology advancements and their adoption into the marketplace in a way that will make the air quality improvements possible.

WN160818 - SS

Comments on Plan Objectives

SANBAG concurs with the Plan objectives as expressed on pages ES-4 through ES-6, and would like to emphasize the following points:

- For objective ***"Eliminate reliance on future technologies (CAA §182(e)(5)) measures to the extent feasible."*** - We agree with the statement that "Some CAA §182(e)(5) flexibility may be needed for Plan approval by U.S. Environmental Protection Agency (EPA) given the need for continued technological and cost improvements and new funding and incentive programs." SCAQMD rightly recognizes that there is a potential need to include some of the incentive-based measures in the "black box" (CAA §182(e)(5)) if EPA determines that the funding for these measures is too questionable.

  On the broader topic of flexibility, we recognize that major technological advancements have occurred and commercialization of key technologies (e.g. ultra-low NOx truck engines) appears within reach. However, unknowns still exist in the cost and performance characteristics of some of the technologies. While we recognize that SCAQMD and ARB must prepare an approvable State Implementation Plan (SIP), it is also important that the marketplace have confidence in the performance of the cleaner technologies being made available. We trust that the federal regulators will work with us on the long term pathway to attainment and not put SCAQMD and ARB in the position of having to adopt measures in the short term that are not as cost-effective and that potentially have greater impacts on business when the most effective measures are within reach. Perhaps the need for flexibility could come into play if, for example, commercialization of some of these key technologies should lag behind the anticipated timeline. 25-2

  We recognize that the attainment timelines are tight, but flexibility and a cooperative spirit at all levels will be important as we get closer to the attainment dates. All the agencies in the region are working extremely hard to improve air quality, and our success has been evident. The AQMP acknowledges the dual goals of both attaining air quality standards and supporting the economy, and the type of flexibility suggested in this objective is a good example of this balance in action.

- For objective ***"Develop a strategy with fair-share emission reductions at the federal, state, and local levels."*** – Our reading of the draft AQMP suggests that the South Coast Air Basin cannot achieve the NOx reductions for timely attainment of federal ozone standards alone, even together with actions by ARB. This objective references the importance of federal action, including a new ultra-low NOx engine emission standard for heavy duty trucks. SANBAG has signed on to SCAQMD's "Petition to EPA for Rulemaking to Adopt Ultra-Low NOx Exhaust Emission Standards for On-Road Heavy-Duty Trucks," as documented in our letter to EPA's Gina McCarthy dated July 18, 2016. The need for federal action is clearly identified in Figure ES-2 of the AQMP Executive Summary, and the graphic shows that the importance of federal action increases over time. Although ARB may adopt its own ultra-low NOx standard, it will be much better for California and the region if EPA carries out its responsibility by adopting this 25-3

standard, which will be key to attaining the ozone standard that EPA, itself, has set. Federal action more than doubles the NOx reduction of a state-only action. Adopting only a state standard will also put California at an even greater competitive disadvantage, which is contrary to the intent of the Governor's Executive Order B-32-15. We were glad to see that the EPA has signaled its intent to begin discussions on a lower NOx standard in its August 16, 2016 Final Rule on "Standards to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles." The EPA clearly understands the importance of such an action and we are optimistic that they will move the process forward. 25-3 Con't

- For objective **"Invest in strategies and technologies meeting multiple objectives regarding air quality, climate change, air toxics exposure, energy, and transportation."** – As we stated in our comment letter on the AQMP white papers last year, we support strategies for reducing criteria pollutants that have co-benefits for Green House Gas (GHG) reduction. However, this may not always be practical if we are to meet the more pressing deadlines for attaining the 8-hour ozone standard. ARB indicated at the AQMP Advisory Group meeting on June 15 that their strategy for mobile sources involved beginning with measures for GHG reduction and then adding control measures needed to attain federal standards for criteria pollutants. This seems logical, except that it could result in an overall strategy that is suboptimal for achieving federal standards for criteria pollutants within the prescribed timelines for 2023 and 2031. It would seem that meeting federally mandated criteria pollutant attainment deadlines should take priority. 25-4

  Additional clarification is needed regarding how the GHG reduction goals for mobile sources interact with the attainment of criteria pollutant standards. The extent to which the GHG goals influenced the attainment strategy is unclear, and whether/how the costs associated with GHG reduction strategies are included in the costs for attainment. The costs identified in the AQMP for attaining federal standards are extraordinary, and we would just want to make sure that the path to attainment is not unintentionally more costly than it needs to be. We would request that SCAQMD and ARB more thoroughly explain the cost and timeline implications of the way in which they approached the co-objectives of GHG and criteria pollutant reduction. If the path to attainment for criteria pollutants is less than optimal from a timing and cost perspective, this is another reason for the regulatory agencies to provide flexibility to the South Coast, per the first objective in the AQMP. In other words, the District and its partners should not incur greater costs in its path to timely attainment by virtue of also striving to help the state achieve its GHG reduction goals. It is not clear from the documentation whether this is the case, but the question needs to be raised.

- For objective **"Seek significant funding for incentives to implement early deployment and commercialization of zero and near-zero technologies."** – As the draft Plan points out, incentive funding will be critical to the rate at which auto and truck vehicle fleets can be turned over to achieve air quality standards within the prescribed timelines. We appreciate that SCAQMD has consistently made this point with ARB and EPA, and the dialogue between the agencies has been helpful with regard to how incentives may be considered in the SIP. The point is that this region will need significant financial help 25-5

from the state and federal levels, and any failure to receive the necessary help from state and federal agencies should not result in the imposition of control measures that carry with them local costs and economic disadvantages that would make it even more difficult to raise the capital necessary to comply. A robust economy is needed to generate the funding stream that will enable investment in these technological improvements. The San Bernardino County economy is particularly vulnerable to this possibility, given the extent of disadvantaged communities in our area and our dependence on the logistics sector for economic growth. 25-5 Con't

- For objective **"Enhance the socioeconomic analysis and pursue the most efficient and cost-effective path to achieve multi-pollutant and multi-deadline targets. " –** We appreciate the significant work that has gone into the economic analyses for the draft AQMP and the ARB Mobile Source Strategy and SIP Strategy, and we look forward to seeing the additional detail that AQMD and ARB have developed. The overall conclusion of the economic analysis for mobile sources is that "*the Mobile Source Strategy is estimated to have a negligible impact on the California economy resulting in an average slowing in the growth of the gross state product … of 0.051 percent from 2023 to 2031*" (source: page A-2 of the *ARB Mobile Source Strategy Appendix A: Economic Impact Analysis*). While this may be true of the impact on the economy overall, based on the REMI modeling, we would urge ARB to highlight more of the potential sector-based and geographically-based impacts. For example, the forecast cost for conversion of truck fleets to cleaner vehicles is extraordinarily high, and we have to imagine that this will hit logistics-based economies like San Bernardino County most heavily. We recognize that our citizens will receive the important benefit of improved air quality, but the differential impact of the costs of implementation need to be more fully explained. It will be little consolation to individuals and families working in the logistics industry in San Bernardino County if we are put at a more competitive disadvantage because of the costs we will be required to bear. A viable incentives program can go a long way toward minimizing these impacts, and the case for incentives needs to be made proactively in Sacramento and Washington. We look forward to working with AQMD and ARB to see that this case is made. 25-6

Additional Comments

- Page ES-10 – SANBAG concurs with SCAQMD's desire to reclassify the South Coast Air Basin as a "serious" nonattainment area for PM2.5. This will provide the time needed to reach attainment for the annual PM2.5 standard in 2023, given that demonstrating attainment is impracticable for 2021, the "moderate" PM 2.5 nonattainment area deadline.
- Page 4-9, top paragraph – SANBAG concurs with the statement "Air quality regulatory agencies have traditionally set policies and requirements that are performance-based, and thus technology- and fuel-neutral. This is a policy that the SCAQMD intends to continue. All technologies and fuels should be able to compete on an equal footing to meet environmental needs." 25-7

- Pages 4-61 and 4-62 – We appreciate the efforts undertaken to estimate the cost of turning over mobile source fleets at a level that will achieve air quality standards. As indicated, the magnitude of the cost is large, and the required scale of incentives is unprecedented. Yet the pathway to attainment expressed in the AQMP has become clearer as technology has progressed. SANBAG is prepared to work with SCAQMD and ARB to help secure the needed resources at the state and federal levels. At the same time, these funds should not come at the expense of the funding streams we have traditionally relied upon for operating and maintaining our transit and transportation infrastructure and systems.

- There are a number of measures that have not been quantified in the Draft AQMP and are put into a "to be determined" category. Our understanding is that these are not needed to demonstrate attainment, so we would question why they are included alongside the quantified measures. More information is needed as to how these "TBD" measures are intended to be used, and any process for later quantifying and adopting these measures should be further explained. These should receive the same level of scrutiny, analysis, and public review as the quantified measures in the AQMP.

25-7 Con't

Again, we appreciate the opportunity to work with you on the 2016 AQMP and look forward to further discussions.

Regards,

Raymond W. Wolfe
Executive Director

Responses to Comment Letter from San Bernardino Associated Governments (SANBAG)
(Comment Letter #25)

Response to Comment 25-1:

Staff appreciates comments and your participation in the 2016 AQMP public process. We are aware of the dual objectives of cleaning the air while promoting a vibrant economy.

Response to Comment 25-2:

Staff agrees that certain technologies will need time to be developed and made commercially available, thus flexibility in the control strategy is warranted. The objective in the Plan to eliminate the reliance on future new technology is intended to advance deployment of known cleaner technologies coupled with incentives to assist in making actions cost-effective for some sources where technologically feasible. This is particularly important because of the fast-approaching ozone standard deadlines. Over time, the cleaner technology will be more commercially available, achieved in practice, feasible in more applications, etc. so as to provide a less burdensome transition in future rulemaking. Staff plans to develop the incentive program in accordance to U.S. EPA requirements for SIP credit, ensure appropriate funding, and achieve the committed reductions.

Response to Comment 25-3:

Staff appreciates the comment and support for the petition to U.S. EPA on adopting ultra-low NOx engine emission standards.

Response to Comment 25-4:

In order to get emission reduction credit from the co-benefits of existing GHG programs, it is critical to conduct proper tracking and reporting. Staff plans to ensure those calculations are conducted and reporting is properly submitted to U.S. EPA for SIP credit.

The comment letter asks if GHG goals and associated costs affect the AQMP attainment strategy and total cost. Staff has discussed this issue with CARB and both agencies recognize that a very large part of the cost initially identified for the AQMP was due to the light-duty vehicle measure, which is primarily a GHG reduction measure and will be implemented anyway to attain GHG goals. Staff has therefore removed the costs of this measure from the 2016 AQMP costs and treated the measure as a GHG measure with NOx co-benefits.

Response to Comment 25-5:

Staff appreciates the comments and will be working closely with CARB to ensure that funding for deployment of zero and near-zero emission vehicles and equipment will be prioritized for the region to help meet air quality standards.

Response to Comment 25-6:

As part of the socioeconomic impact analysis for the 2016 AQMP, there will be further detailed information on potential economic impacts broken down by sector and geography. CARB has provided the assumptions for the SCAQMD to conduct the analysis of their proposed measures.

Response to Comment 25-7:

Staff agrees that there should not be a competition for the limited existing funding. As such, staff will be working with all interested stakeholders to identify new sources of funding. Please see Responses to Comments 11-1 and 12-2 for further discussion on the incentive programs, and Response to Comment 7-5 regarding TBD measures.

Comment Letter from Western States Petroleum Association (Comment Letter #26)

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Sue Gornick
Manager, Southern California Region

VIA ELECTRONIC MAIL

August 18, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: Comments on the Draft 2016 Air Quality Management Plan (AQMP)

Dear Dr. Fine:

Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-five companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, Arizona, Nevada, Oregon, and Washington. WSPA has been an active participant in air quality planning issues for over 30 years. WSPA-member companies operate petroleum refineries and other facilities in the South Coast Air Basin and thus have a major stake in the Air Quality Management Plan (AQMP) being prepared by the South Coast Air Quality Management District (SCAQMD or District), and any rule developments that might stem from the final AQMP as adopted by the District's Governing Board. 26-1

WSPA appreciates the opportunity to submit these comments on the Draft 2016 Air Quality Management Plan (AQMP) and continues to support the South Coast regional air quality planning process and the successes achieved to date. Over the last two decades, Southern California's industrial facilities (i.e., stationary sources including the region's petroleum refineries) have reduced their emissions by over 70 percent for most criteria pollutants including nitrogen oxides (NO_X) and sulfur oxides (SO_X).

Our general comments are as follows:

1. **The AQMP control strategy should exclude all measures not needed to minimally achieve the region's carrying capacity targets for attainment of the National Ambient Air Quality Standards (NAAQS).** 26-2

As presented in the Draft AQMP,[1] the Staff's proposal includes a large number of control measures which do not appear to be necessary for meeting the AQMP objectives. This situation is possible due to the significant emission reductions projected under the 2016 State Strategy. However, the Draft AQMP includes dozens of additional control measures which have not been shown to be necessary for reaching the region's so-called "carrying capacity." In fact, most of these "extra" measures have no quantified emission benefits yet would impose considerable costs on the Southern California economy. 26-2 Con't

WSPA provides our comments on the ARB Proposed 2016 State Strategy for the State Implementation Plan in Attachment 1, attached hereto and incorporated herein by reference for your consideration.

2. **The AQMP control strategy should prioritize non-regulatory, incentive based approaches to reducing emissions outside the State Strategy. Such incentive based measures should be cost effective and limited to reasonably anticipated funding levels and sources.**

To the extent they are needed to demonstrating attainment, WSPA is supportive of the Draft AQMP's inclusion of control measures based on incentives and other non-regulatory approaches intended to accelerate the transition of vehicles, buildings, and industrial facilities to cleaner technologies. Southern California's industrial facilities (i.e., stationary sources including the region's petroleum refineries) have dramatically reduced their emissions by over 70 percent for most criteria pollutants over the last two decades. This includes emissions of NO_X and SO_X. These facilities may not be able to further reduce emissions in a cost effective manner absent some form of incentive. 26-3

WSPA is concerned that these Draft AQMP measures may have gone beyond what might reasonably be able to be funded. AQMD Staff are suggesting the amount of incentive funding needed for these control measures (i.e., $14 billion over a 15 year period, present value)[2] that is without precedent. The AQMP needs to demonstrate how this level of funding might actually be accomplished.

3. **Proposed Control Measure CMB-05 (Further NOX Reductions from RECLAIM Assessment) is unreasonable and should be removed from the AQMP.**

In December 2015, the AQMD Governing Board approved the single largest adjustment of NOx RECLAIM since the program began in 1994. When fully implemented, those amendments will remove at least 12 tons per day (tpd) from the NOx RECLAIM market; a 45% reduction.[3] This is on top of the nearly 70% reduction in NOx emissions achieved under RECLAIM since 1994. 26-4

The 2015 rulemaking, which implemented Control Measure CMB-01 from the 2012 AQMP, proposed market adjustments due to the advancement of NOx Best Available Retrofit Control

[1] SCAQMD, Draft 2016 AQMP, Table ES-2 (June 2016).
[2] SCAQMD, Presentation to the 2016 AQMP STMPR, Socioeconomic Session, 28 July 2016.
[3] See SCAQMD Rule 2002. Also Governing Board package for 4 December 2015 meeting, Agenda item #30.

(BARCT) for various equipment by establishing RECLAIM Trading Credit (RTC) reduction targets and RTC adjustment factors for year 2016 and beyond. That rulemaking also took "credit" for the fact that certain companies have left Southern California, and made some adjustments for anticipated future growth of industrial sectors covered by the RECLAIM program. The 2015 rulemaking also included an "off-ramp" for electricity generating facilities (EGF) at BACT or BARCT. That last provision, if optioned by qualifying EGFs, would result in additional RTCs being removed from the RECLAIM program above and beyond the 12 tpd market adjustment approved by the Governing Board. And in 2016, AQMD Staff are also developing additional amendments to Rule 2002 which would, if adopted by the Governing Board, remove even more RTCs from the NOx RECLAIM Program in the event of future RECLAIM facility shutdowns.

26-4 Con't

As presented in the Draft AQMP, the proposed control measure purports to address several issues that arose during recent NOx RECLAIM amendments. "These measures listed below would be designed to achieve additional actual and/or SIP creditable emission reductions from the RECLAIM Program and ensure future equivalency with command-and-control regulations.[4] But as detailed below, all of these "issues" were already addressed in the December 2015 rulemaking or have now been made moot such that there is no factual rationale for the proposed target of 5 tpd of additional creditable emission reductions from the NOx RECLAIM program by 2031.

Specifically, the Draft AQMP suggests the following reasons for this measure:[5]

Issue as Presented: *"Assess the need for and the size of the differential between RTC holdings and actual emissions. The size of this unused RTC margin is affected by the possible need for a compliance margin, uncertainties in the growth projections for existing and new businesses, facility and equipment shutdowns, and holdings by investors. A full assessment may allow for an optimization of the size of the margin that could allow for further RTC reductions."*

26-5

During the last Regulation XX rulemaking, it was noted that overall NOx RECLAIM market had, in recent years (i.e., 2011-2013), exhibited an unused RTC margin of 4-6 tpd depending on the year and prevailing economic conditions. In the context that period's market cap of 26.5 tpd represented 15-25% of the overall NOx RTC market. By its very design, the 2015 rulemaking will have eliminated nearly all of those previously unused RTCs once fully implemented by 2023. As such, we do not believe this represents a valid basis for a future market adjustment.

Issue as Presented: *"Consider options for facilities at BACT or BARCT and/or facilities with no allocations (structural buyers) to exit the program and be subject to command and control regulations. The most recent NOx amendment allowed EGFs to voluntarily opt-out of RECLAIM. Such an option could be extended to other facilities, and potentially lead to more AQMP creditable emission reductions given that future non-RECLAIM facilities emissions are projected at actual levels with growth rather than total allocations."*

26-6

[4] SCAQMD Draft AQMP, Appendix IV, page IV-A-77.
[5] SCAQMD Draft AQMP, Appendix IV, page IV-A-75 et seq.

The 2015 rulemaking already featured an "off-ramp" for EGFs at BACT or BARCT, and the rulemaking by design would force the remaining RECLAIM facilities to meet the Staff's BARCT levels (found in Rule 2002) on a programmatic basis. Simply put, the "issue" identified is no longer valid after the 2015 amendments to RECLAIM. 26-6 Con't

Issue as Presented: *"Consider command-and-control regulation overlays to certain RECLAIM facilities. For some RECLAIM facilities a command-and-control overlay may be the best way to reduce NOx emissions while maintaining the required equivalency with command and control."* 26-7

The 2015 rulemaking by design would force RECLAIM facilities to meet the Staff's BARCT levels (found in Rule 2002) on a programmatic basis. Those BARCT levels are in many cases equal to or more stringent than current BACT.[6] The suggested "command-and-control overlays" would fundamentally conflict with Regulation XX program design. And given the 2015 amendments, they would be unlikely to yield material additional, creditable emission reductions.

Issue as Presented: "*Assess facility and equipment shutdowns and the removal of associated RTCs from the market. Under command-and-control rules, shutdown emission credits are heavily discounted to BACT, based on the last 2 years of operation. While there is no discount of credits for a RECLAIM facility or equipment shutdown, the overall RTCs available to RECLAIM facilities have been reduced over time to reflect the advancement of BARCT (i.e., command-and-control equivalency). In some cases, these BARCT levels are equal to, or more stringent than, BACT determinations. However, these credits, if not removed from the program, could reduce the incentive to implement cost-effective controls that would otherwise be required under command-and-control.*" 26-8

As noted above, AQMD Staff are already developing a Proposed Amended Rule 2002 which would, if adopted by the Governing Board, remove additional RTCs from the NOx RECLAIM program in the event of future RECLAIM facility shutdowns. It is impossible to know how many, if any, facilities might shutdown in the future and whether such shutdowns would trigger the removal of additional credits from the RECLAIM market.

Issue as Presented: *"Assessment of whether the cost-effectiveness benefits that the RECLAIM market was intended to provide still exist given the need for all feasible NOx reductions and the potential lack of lower-cost control options."* 26-9

While such an assessment could be informative, this is not a rationale for further reductions in the NOx RECLAIM market.

Issue as Presented: *"Perform additional or more frequent BARCT assessments and adjust allocations as control technologies improve and are implemented in practice."* 26-10

[6] SCAQMD 2016 AQMP, Appendix IV, page IV-A-77. "In some cases, these BARCT levels are equal to, or more stringent than, BACT determinations."

AQMD is already obligated to perform such assessments under the California Health & Safety Code.[7] Such assessments would trigger future rulemaking if it was concluded that BARCT was more stringent that the levels presented in Rule 2002. Given the severity of BARCT determinations in the 2015 rulemaking, some of which are already more stringent than BACT, there is no technical basis at this time to suggest that BARCT advancement will be able to yield an additional 35% of NOx emissions from RECLAIM facilities by 2031 (i.e., 5 tpd / 14.5 tpd). 26-10 Con't

Issue as Presented: *"Assess whether more SIP creditable and/or actual emission reductions could be achieved without the RECLAIM program, and if so, explore how the program could be sunset in an orderly and equitable fashion."* 26-11

This is a policy matter which would need to be considered by the Governing Board. It is not a rationale that supports further proposed reductions in the NOx RECLAIM market.

Issue as Presented: *"Re-examination of the RECLAIM program if RTC prices hit the upper or lower threshold amounts. The current NOx RECLAIM regulation has a lower price threshold of $200,000 per ton (infinite year block) and upper price thresholds of $22,500 and $35,000 per ton (discrete year; annual and 3-month average, respectively). The levels of these thresholds or additional thresholds could be modified commensurate with future BARCT assessments and attainment needs."*

California's Health and Safety Code requires an air district to make certain findings when adopting rules and regulations to implement a market-based incentive program, including a determination that: 26-12

- The program will result in an equivalent or greater reduction in emissions at equivalent or less cost compared with current command and control regulations and future air quality measures that would otherwise have been adopted as part of the district's plan for attainment.
- The program will provide a level of enforcement and monitoring, to ensure compliance with emission reduction requirements, comparable with command and control air quality measures that would otherwise have been adopted by the district for inclusion in the district's plan for attainment.
- The program will not result in a greater loss of jobs or more significant shifts from higher to lower skilled jobs, on an overall districtwide basis, than that which would exist under command and control air quality measures that would otherwise have been adopted as part of the district's plan for attainment.
- The program will not result in disproportionate impacts, measured on an aggregate basis, on those stationary sources included in the program compared to other permitted stationary sources in the district's plan for attainment.[8]

Any reconsideration of price triggers or cost effectiveness thresholds would need to be supported by findings that the program will not result in disproportionate impacts, measured on an

[7] CH&SC §39616(c).
[8] CH&SC §39616(c).

aggregate basis, on those facilities included in the RECLAIM program as compared to other permitted stationary sources in the District. We are skeptical that such a finding could be made at this time; the issue does not support further reductions in the NOx RECLAIM market. 26-12 Con't

Issue as Presented: *"Assess the impacts of investors holding RTCs. Investors have historically played an important role in the RECLAIM program. However, their holding of RTCs have posed problems with the trading and identification of reductions because they are not RECLAIM facilities that have an initial allocation or a potential to reduce NOx emissions."*

California Health & Safety Code specifically provides that RECLAIM "shall achieve emission reductions across a spectrum of sources by allowing for trading of emissions trading units for quantifiable reductions in emissions from a significant number of different sources."[9] So this topic would appear to be a policy matter which would need to be considered by the Governing Board and/or State Legislature. Regardless, it is not a rationale which supports further proposed reductions in the NOx RECLAIM market. 26-13

Given the already adopted and proposed changes to the RECLAIM program, the basis presented for proposed Control Measure CMB-05 is fundamentally flawed. It lacks any factual rationale to support the notion that 5 tpd of additional creditable emission reductions could be achieved by 2031. For these reasons, this proposed control measure should be removed from the AQMP. If the district insists on including a RECLAIM control measure in this AQMP, it should be a range since what is included in the AQMP is the minimum commitment to USEPA that must be met. We recommend a range of 0-3 tpd. And further, WSPA believes that any additional adjustment to RECLAIM Trading Credits (RTCs) under the NOx RECLAIM program should be applied equally to all NOx RECLAIM market participants as a proportion of their present RTC holdings consistent with the founding principles of the RECLAIM program.

Lastly, staff estimates that the cost to implement this measure to be 50% higher than the projection for the December 2015 amendments, but there is no basis for that estimate. This figure should be supported with an actual technical basis or completely removed from the document.

4. As a co-benefits measure, proposed Control Measure ECC-01 (Co-Benefit Emission Reductions from GHG Programs, Policies, and Incentives) should not involve any AQMD "enhancements."

The Draft AQMP presents proposed Control Measure ECC-01 as potentially involving AQMD authority to regulate emissions from stationary sources and that "AQMD will work with other regulatory agencies for program enhancements."[10] Yet, the Draft AQMP also suggests "Because this control measure relies on other programs, no additional costs other than relatively minor administrative costs are anticipated as a direct result of this control measure."[11] [emphasis added] These positions are contradictory. Since the measure is intended to rely on the 26-14

[9] California Health & Safety Code §40440.1(a).
[10] SCAQMD Draft AQMP, Appendix IV, page IV-A-25, Implementing Agencies.
[11] SCAQMD Draft AQMP, Appendix IV, page IV-A-25, Cost-Effectiveness.

accounting of co-benefits from GHG programs, policies, and incentives, it is not appropriate to consider other "enhancements" or AQMD authority under this measure. The Draft AQMP discussion of ECC-01 must be revised to exclude references to program enhancements or the exercise of AQMD authority.

26-14 Con't

5. **Proposed Control Measure FUG-01 (Improved Leak Detection and Repair) should be revised to consider the use of optical gas imaging (OGI) technology as a suitable substitute for, not an addition to, conventional LDAR component inspections. This was the intended purpose of "Smart-LDAR" and would help to resolve the inefficient and labor-intensive effort associated with conventional LDAR programs. References to unspecified "new technologies" should be removed from the measure.**

As with prior AQMPs, this Draft AQMP includes a proposed control measure which describes a wide-ranging approach to potentially further reducing VOC emissions from fugitive emission components at petroleum industry facilities and chemical plants. The control measure again focuses on the potential use of optical gas imaging technology (as it did the 2012 and 2007 AQMPs).[12] Optical gas imaging (OGI) technology was borne out of a desire to conduct fugitive emission LDAR programs in a more efficient manner (thus, the term "Smart-LDAR"). Prior AQMPs have specifically recognized the inefficient and labor-intensive effort associated with conventional LDAR programs; however, this concept is not addressed in FUG-01. The control measure should recognize the problem and do something about the inefficiency of existing LDAR programs.

26-15

The control measure lists seven existing AQMD rules for which it is suggested that the requirements could be enhanced, but the nature of the potential enhancements to the individual rules is not explained. So the overall proposed approach remains vague. Mention is made of an OGI pilot program. The control measure needs to provide more information and greater clarity, or, in the alternative, there should be a description of a potential stakeholder process through which a pilot program might be developed.

FUG-01 suggests that OGI might be used to supplement existing LDAR programs. However, clearly the highest and best potential use of the OGI is as a substitute for conventional inspections of components with an organic vapor analyzer. WSPA's overriding concern is that adding OGI to existing requirements is not cost-effective. Replacing LDAR with OGI is more attractive, and there are various possibilities that could be explored (e.g., using OGI for difficult-to-monitor components).

The control measure summary table[13] identifies potential VOC reductions of 2 tpd by 2023 from an inventory of 7.1 tpd. WSPA believes that the emissions reduction estimate (i.e., >25%) is overly optimistic. We also note that the baseline emissions inventory is considerably different than the figures which were presented in the 2012 AQMP for Control Measure FUG-03. WSPA would like to understand the source of the 7.1 tons/day emissions inventory as well as the basis

[12] SCAQMD 2012 AQMP Control Measure FUG-03 and 2007 AQMP Control Measure FUG-01.
[13] SCAQMD 2016 AQMP, Appendix IV, page IV-A-80.

for the estimated reductions. We note that the discussion of "Emissions Reduction" provides no basis for the estimated emission reductions.

The cost effectiveness for this measure is presented as $11,000 per ton of emissions reduced, but there is no basis for that estimate. This figure should be supported with an actual technical basis or completely removed from the document.

Lastly, the proposed measure also suggests exploring the use of "new technologies to detect VOC fugitive emissions in order to supplement existing programs and achieve additional emission reductions." But the Draft AQMP does not explain what those technologies might be, how they would be effective, or how much they might cost and to whom. The measure goes on to discuss two phase implementation without these technologies (or so we inferred). Given the lack of an actual proposal for these new technologies, all references to unspecified "new technologies" should be removed from proposed Control Measure FUG-01. 26-15 Con't

WSPA appreciates the opportunity to submit these comments. We may submit additional comments during this process as the District releases additional 2016 AQMP documents including, but not limited to the second Draft AQMP. We understand all submissions will be given due consideration by the District staff and the Governing Board.

Please contact me with any questions at (310) 808-2146 or sgornick@wspa.org.

Sincerely,

Suzanne E. Gornick

cc: Michael Krause, SCAQMD

Attachment to Comment Letter #26:

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Thomas A. Umenhofer, CCM, REPA
Vice President

July 18, 2016

Carol Sutkus
Kirsten King Cayabyab
Air Resources Board
1001 I Street
Sacramento, CA 95814

via e-mail at: carol.sutkus@arb.ca.gov
via e-mail at: kirsten.cayabyab@arb.ca.gov

Re: WSPA Comments on ARB Proposed 2016 State Strategy for the State Implementation Plan

Dear Ms. Sutkus and Ms. Cayabyab:

The Western States Petroleum Association (WSPA) is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states. WSPA appreciates the opportunity to provide comments on the Air Resources Board (ARB) proposed 2016 State Strategy for the State Implementation Plan (SIP Strategy) which describes proposed measures to achieve the reductions from the mobile sector and consumer products.

Specifically, WSPA would like to provide feedback to ARB regarding the updated ARB Mobile Source Strategy (MSS), dated May 16, 2016. This document is considered by ARB as a key part ARB's integrated planning effort in the development of the SIP Strategy. Section 10 (Fuels) of the MSS is of particular significance as it applies to diesel and renewable diesel fuels. In Section 10 (pages 153-154) of the MSS, ARB proposes the following:

> "ARB would bring to the Board a proposed measure that would require Low-Emission Diesel to comprise a steadily increasing percent of the ARB diesel pool. Due to the magnitude of needed NOx reductions in the South Coast and the large volumes of Low-Emission Diesel needed for full statewide implementation, the proposed measure would be phased-in with a gradual implementation strategy that starts in the South Coast, and subsequently expands statewide.
>
> This standard is flexible and enables multiple fuel types to meet this standard. The specifications of Low-Emission Diesel would require less than one percent aromatics, virtually no sulfur, and a blendstock carbon intensity maximum of 30-60 gCO2e/MJ. This standard is anticipated to increase consumption of Low-Emission Diesel fuels, including: renewable diesel from biomass, NOx-mitigated biodiesel, renewable natural gas from biomethane, gas to liquid diesel from biomethane, renewable hydrocarbon diesel, and/or co-processed renewable hydrocarbon diesel. This proposed measure would provide NOx benefits predominately from legacy (pre-2010) on-road heavy-duty vehicles, off-road engines, stationary engines, portable engines, marine vessels and locomotives, as well as NOx and Diesel PM benefits in potentially all model year off-road engines, stationary engines, portable engines, marine vessels and locomotives. Interstate vehicles, even those registered out-of-state but operating on ARB diesel blended with Low-Emission Diesel, are also anticipated to provide emission reduction benefits.

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> This standard would complement existing ARB programs that incentivize increased use of renewable fuels as substitutes for conventional gasoline and diesel fuels, and will focus on more completely transitioning the fuel mix away from petroleum based diesel to a cleaner, renewable mix of diesel substitute fuels. Potential diesel substitutes that may be considered include renewable diesel from biomass, NOx mitigated biodiesel, renewable natural gas from biomethane, gas to liquid diesel from biomethane, renewable hydrocarbon diesel, and/or co-processed renewable hydrocarbon diesel. The proposed measure is anticipated to diversify the fuel pool, as it will incentivize increased production of Low-Emission Diesel fuels. This proposed measure would require incremental progress toward a goal of Low-Emission Diesel comprising 50 percent of the on and off-road diesel sold in State by 2031."

Specifically, WSPA has several concerns regarding the above proposal that we believe need to be addressed before moving forward with the proposed Low-Emission Diesel program:

Concern 1 - Lack of Clarity in Defining Low-Emissions Diesel

WSPA has several key questions regarding Low-Emissions Diesel (LED). What is the disposition of conventional gas to liquids (GTL) fuels and other like fuels in this strategy? Why add the carbon intensity component to the LED when the LCFS standard and Cap and Trade program already does this? This fuel could provide significant NO_x and PM reductions similar to renewable diesel. This measure should focus on emissions and allow the market to determine how to get there within the confines of the regulations currently in place.

Concern 2 - Questionable Projection Methodology

Unlike the "top-down" approach used in estimating Renewable Diesel (RD) volumes through 2020 in the Low Carbon Fuel Standard (LCFS) and for Advanced Diesel Fuels (ADF), this analysis is based on "bottom-up projections." Top-down in this context means looking at what RD plants are in operation (or may be in operation in the subject time frame) to arrive at a total renewable diesel available figure to which a "how-much-of-that-is-coming-to-CA" factor is applied. The MSS estimates appear to go all the way to starting with available feedstock that could be converted to RD globally. If this is a correct interpretation of how estimates are calculated, then the estimate could potentially yield an increase in RD into California that is 3 times (or more) higher than the 2020 estimates in ARB's illustrative scenario case (which may be an overestimate to begin with). WSPA requests that ARB explain the assumptions used to determine the available feedstock.

Concern 3 - Lack of Demonstration of Measurable Benefit

By ARB's own figures, later model year trucks equipped with NO_x traps and PM filters will constitute more than 90% of the fleet by 2023. In addition, there is another measure in the MSS that drives the engine manufacturers to ever lower exhaust emission targets. With those two key elements in mind, it is not clear what the benefits of the resultant potentially highly-expensive fuel would be. WSPA would like ARB provide a forecast of market share for legacy on-road diesel vehicles in 2025 as well as the projected off-road fleet. How did ARB separate the impact of vehicle technology from the impact of the LED fuel? What is the incremental benefit of the LED fuel over the new technology vehicles?

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Concern 4 - Uncertainly in Demand for Diesel

The ARB proposal suggests that for LED which would create a set of circumstances that do not exist today. To fully analyze this issue, WSPA believes that ARB would need to answer several sets of critical questions:

a. For example, what are the incremental criteria and GHG emissions resulting from the potentially displaced volume of diesel being exported from California? Does ARB assume that the displace diesel will be exported or that refinery capacity will be reduced proportionally?
b. Where does ARB anticipate the additional renewable diesel will come from? Is it produced in-state? What are emissions from this production?
c. If it is imported into California, where does it come from and how does it get here? What are the emissions from the transportation of the renewable diesel?
d. What would be the AB 32 Cap & Trade Program implications of the increase in renewable diesel imports? Would this cause emissions leakage and/or require border carbon adjustments?

These are important questions that must be addressed before proceeding with the MSS as it is currently written.

WSPA requests that ARB take an additional look at each of these concerns and provide a response that not only addresses the concerns but provides viable options to eliminate or minimize these concerns. Further, WSPA believes that a better approach needs provided (through consultation with the industry sector) than the broad state-wide measure currently put forward. Obviously, the need for emission reductions is regional (i.e., not state-wide) while the availability of LED will be extremely limited and the costs prohibitively high. The logic of not directing that limited volume only to the areas where the needs are greatest should be examined closely by ARB. This effort could include analysis of the implication of "leakage" into the area of non-LED fuel and out of the area of LED fuel, of potentially bifurcating on-road and off-road diesel supply, and other potential distribution optimization opportunities.

WSPA appreciates ARB's consideration of our comments, and we look forward to your responses. If you have any questions, please contact me at (805) 701-9142 or email tom@wspa.org.

Sincerely,

cc: Richard Corey - ARB
Edie Chang - ARB
Cathy Reheis-Boyd - WSPA

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Responses to Comment Letter from Western States Petroleum Association (WSPA)
(Comment Letter #26)

Response to Comment 26-1:

Staff appreciates your comments and continuing support for the regional air quality planning process and successes.

Response to Comment 26-2:

See Response to Comment 7-5 regarding unquantified measures.

Response to Comment 26-3:

Staff appreciates the support for the incentive programs and understands the concern with the amount of needed funding. A Financial Incentive Funding Action Plan has been prepared as a companion document to the 2016 AQMP. The plan will provide an analysis of potential funding opportunities and proposed actions to be taken to secure the funding identified in the AQMP. The Financial Incentive Funding Action Plan will also include activities to pursue funding, the schedule, and reporting commitments. Pursuing the funding will require an analysis of authority, formation of a stakeholder working group, and in the case of federal funds, creation of a national collaborative comprised of National Association of Clean Air Agencies (NACAA) for state/local air agencies, private sector members (engine manufacturers, Manufacturers of Emission Controls Association (MECA), trade associations, labor unions, etc.) and non-government organizations (local, state, national). Collaboration within the state will include California Air Pollution Control Officers Association (CAPCOA), CARB, NGOs, private sector supporters, and state/local partnerships.

Response to Comment 26-4:

The RECLAIM control measure ensures compliance with state law that mandates that periodic BARCT assessments be performed for the program. This re-assessment would occur out into the future and well beyond the December 2015 amendments to the program. Potential technologies that were identified in the December 2015 amendments would have further matured and newer technologies can be identified that can result in additional reductions for RECLAIM sources. The AQMP proposes additional serious consideration for an orderly sunsetting of the RECLAIM program in order to create more regulatory certainty, reduce compliance burdens for facilities, and achieve SIP-creditable emission reductions. Approximately every 10 years, NOx RECLAIM has reduced RTCs by 8 to 12 tons per day. Given the historical evidence of past NOx emission reductions coinciding with control technology maturation, it is quite reasonable to assume that an additional 5 ton per day reduction is achievable in the eight years between 2023 and 2031.

Response to Comment 26-5:

The December 2015 amendments to the NOx RECLAIM program did not eliminate the margin between NOx emissions and RTC holdings. That is, if BARCT equivalency is implemented as adopted, there would still be a margin. As BARCT advances in the future, there is a need to address the size of the margin again. The size of the margin is not the sole driver for the creation of this control measure. The purpose of the control measure is to seek further reductions from the NOx RECLAIM program based on a future BARCT

assessments, as required by the California Health and Safety Code, or through an orderly sunset of the program.

Response to Comment 26-6:

The December 2015 amendments allowed EGFs to voluntarily opt out of the RECLAIM program because virtually all of these facilities are already at BARCT or BACT. The same opportunity for other NOx RECLAIM facilities that are also at BARCT or that are structural buyers will be considered. Facilities that are not at BARCT and rely on the market to purchase RTCs would still be able to function in this type of structure until an orderly transition into command and control regulations can be accomplished, if this avenue is pursued.

Response to Comment 26-7:

NOx RECLAIM facilities have the option of installing BARCT on all pieces of equipment and/or purchasing RTCs in the open market to offset NOx emissions. A command and control overlay, could achieve emission reductions for all pieces of equipment that are not at BARCT, which is the case for many facilities in RECLAIM, and could provide additional, creditable emission reductions. Staff agrees that this would modify the current RECLAIM program, but believes it may provide greater certainty to the needed reductions, and would achieve additional reductions beyond the 2015 amendments as BARCT advances in the future.

Response to Comment 26-8:

Amendments to Rule 2002 were adopted in October 2016, which would prevent large sell-offs of RTCs from shutdowns that other facilities could use to prevent the installation of BARCT. This would apply only to complete facility shutdowns for the largest NOx RTC holders in the RECLAIM program that were issued an initial allocation. Facilities that are subject to the shutdown requirements would be required to surrender only those credits that were issued to them at the beginning of the program. Any credits held above that level would be able to be sold into the market. Staff will continue to consider any appropriate amendments to RECLAIM shutdown provision.

Response to Comment 26-9:

The assessment of the benefits that the RECLAIM program provides given the need for all feasible NOx reductions and the potential lack of lower-cost control options is necessary because many of these lower-cost control options have been either already implemented or are in the process of being implemented. Further programmatic reductions may result in the convergence of the two approaches (market-based versus command and control) to achieve the same emission reduction goals. This assessment is complementary to the assessment of potential future reductions if RECLAIM remains otherwise unchanged.

Response to Comment 26-10:

The SCAQMD is required by the California Health and Safety Code to perform periodic BARCT assessments. As technologies progress and mature, further reductions may be technically feasible and cost effective for not only already-affected source categories, but for other source categories that were not previously analyzed in the 2015 RECLAIM amendments. Please also see the response to comment 26-4 for the basis for proposing additional BARCT reductions.

Response to Comment 26-11:

The 2015 amendments to the NOx RECLAIM program that were adopted by the Governing Board already provide the opportunity for EGFs to opt-out of the program. Further rulemaking would be required to provide the same opportunity for other RECLAIM facilities that are already at BARCT. Through this control measure, further emission reductions would either be achieved by another programmatic allocation shave, or by a transition into a command and control regulatory structure that can achieve SIP-creditable emission reductions. Either approach would require both a public process and Governing Board approval.

Response to Comment 26-12:

The purpose of the RTC cost thresholds is to alert the Governing Board when the credit price is too low, which signifies an excess of RTCs in the market, or when it is too high, which can signify when there are insufficient RTCs in the market. These market condition thresholds are safeguards that would assure that the market is functioning properly. If any adjustments to these cost thresholds are required, the findings that are referenced in the comment could be made at the time of the rulemaking, if required.

Response to Comment 26-13:

As described in the control measure, quantifiable SIP-creditable emission reductions may be achieved from sources in a command and control regulatory structure, whereas in RECLAIM some of these potential reductions exist in the form of RTCs that are held by investors. SIP-creditable emission reductions are quantifiable with the installation of BARCT on categories of source-specific equipment. The basis for the control measure is in meeting the requirements of state law. Please see the response to comment 26-4. The method and application of the emission reductions (across the board or sector-specific) would be determined at the time of rulemaking. As described in the response to comment 26-4, a transition of the program into a command and control regulatory structure would also effect the SIP-creditable emission reductions. The basis for the cost estimate of this control measure is the costs that were determined for the December 2015 amendments to the NOx RECLAIM program. For the purposes of this control measure, it is assumed that further reductions would be achieved from already controlled equipment and it is reasonable to expect that the cost effectiveness would be higher for a smaller amount of emission reductions. Based on past rulemaking experience, a 50 percent higher cost is reasonable. Despite this, further refinement (increase or decrease of costs) would occur at the time of rulemaking. The technical basis for a final cost effectiveness determination would occur as a result of a subsequent BARCT assessment. Additionally, based on previous BARCT assessments, a 5 ton per day NOx reduction of the current market-based program is a reasonable target.

Response to Comment 26-14:

The word “enhancements” has been removed from ECC-01 (appears once in “Implementing Agency" section) in the Revised Draft Plan.

Response to Comment 26-15:

Optical Gas Imaging tools such as the FLIR Camera have proven to be useful instruments in screening component leaks but still lack the ability to determine mass emission rates from component leaks. The current control measure (FUG-01), looks to utilize remote sensing and other instrumentation to detect and quantify fugitive emission leaks both at the source and at the fence-line. Similar to U.S. EPA's Alternative Work Practice To Detect Leaks From Equipment , staff may consider alternative protocols that

outline equipment specifications, calibration techniques, required performance criteria, procedures for conducting surveys and training requirements for optical gas imaging instrument operators without an accompanying requirement to conduct annual monitoring using EPA Method 21 provided that it can be demonstrated to identify and quantify leaks at an equivalent or better level. The emission reduction estimates are based on early results from a comprehensive measurement campaign aimed to fully characterize technologies that quantify fugitive and stack emissions from large refineries and other important VOC sources in the Basin such as oil and gas production sites.

Cost-effectiveness calculations are based on the use of solar occultation flux technology at a unit capital cost of approximately $300,000 at 33 sites. The cost estimates include full-time operator, maintenance and electrical costs which have been included in the revised measure.

Comment Letter from U.S. EPA (Comment Letter #27)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

AUG 19 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Dear Dr. Fine:

We appreciate the opportunity to comment on your draft 2016 Air Quality Management Plan (Draft AQMP), released June 30, 2016. This letter provides general comments on the descriptions of incentive measures in the Draft AQMP. We may provide additional comments on other elements of the Draft AQMP at a later date.

We have preliminarily reviewed the descriptions of 19 voluntary incentive measures in Appendix IV-A of the Draft AQMP (FLX-02, MOB-01 to MOB-14, ECC-02, ECC-03, CMB-01, CMB-02), several on which the Draft AQMP appears to rely for emission reductions. These generalized descriptions do not provide sufficient information for EPA to evaluate the potential for these measures to qualify for state implementation plan (SIP) emission reduction credit. For example, the Draft AQMP does not identify relevant portions of the program guidelines that the District will use to ensure that emission reductions achieved through implementation of the identified programs are quantifiable, surplus, enforceable, and permanent. Additionally, the Draft AQMP does not contain any draft commitments that the State/District will adopt and submit to satisfy Clean Air Act enforceability requirements. 27-1

Under longstanding EPA policy, SIP credit may be allowed for a voluntary incentive program only where a state submits enforceable commitments to ensure that the emission reductions necessary to meet Clean Air Act requirements are achieved. Such commitments must be specific enough to be legally and practically enforceable – *e.g.*, by specifying the applicable program implementation criteria (by title, date, chapter and section number), how the state will monitor and report on emission reductions achieved, and how the state will remedy emission reduction shortfalls in a timely manner. Alternatively, states may under certain circumstances submit enforceable commitments to achieve specified amounts of emission reductions from unidentified control measures, as limited components of a comprehensive SIP control strategy.[1] 27-2

[1] The EPA has historically accepted enforceable tonnage commitments addressing up to approximately 10 percent of the emission reductions needed for attainment of the national ambient air quality standards. *See, e.g.*, 76 FR 69896 (November 9, 2011).

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We look forward to working with you as you further develop the Draft AQMP. If you have questions about these matters, please contact me (415-947-4146) or Idalia Perez (415-972-3248).

Sincerely,

Amy K. Zimpfer, P.E.
Associate Director, Air Division

cc: Sylvia Vanderspek, California Air Resources Board

Responses to Comment Letter from U.S. EPA
(Comment Letter #27)

Response to Comment 27-1:

SCAQMD staff plans to organize working groups to assist in the development of guidelines and ensure the integrity elements of quantifiable, surplus, enforceable and permanent are satisfied. Appendix IV-A provides information regarding the intent for staff to seek approval of a Board Resolution that will demonstrate a federally enforceable commitment being requested by the U.S. EPA. In addition, staff plans to provide technical analysis, funding, resources, outreach, and legal authority to establish the incentive-based measures for SIP approvability.

Response to Comment 27-2:

Staff appreciates the guidance provide by U.S. EPA in the comment including the details necessary to make the incentive measures creditable such as how the program will monitored, how reductions achieved are reported, and how emission reduction shortfalls will be remedied in a timely manner.

Comment Letter from County of Los Angeles Board of Supervisors (Comment Letter #28)

COUNTY OF LOS ANGELES
BOARD OF SUPERVISORS

KENNETH HAHN HALL OF ADMINISTRATION
500 WEST TEMPLE STREET, ROOM 383
LOS ANGELES, CALIFORNIA 90012
(213) 974-1411 • FAX (213) 620-0636

LORI GLASGOW
EXECUTIVE OFFICER

August 19, 2016

Mr. Wayne Nastri, Acting Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

From: Office of the Executive Officer Date: 8/23/2016
To: Phil Fine
Cy:
For your action by: ____ For your info. ✓ ____ handling ____
Draft response for ____ signature, etc: ____

Dear Mr. Nastri:

The Los Angeles County Board of Supervisors, in collaboration with the Department of Public Health, strongly urges you to work with the necessary State and Federal agencies to adopt an Air Quality Management Plan (AQMP) that will improve air quality and public health using regulatory control measures based on available resources instead of adopting the current proposal for clean vehicle incentives that predominantly relies on securing billions of dollars in funding that currently does not exist. 28-1

In order to pay for these incentives, the AQMP predicts that the South Coast Air Quality Management District (SCAQMD) will need to secure approximately $11,000,000,000 to $14,000,000,000 in funding over a seven to fifteen year period. None of this funding has yet been secured, and securing the approximately $1,000,000,000 a year needed from the Federal and State governments to provide these financial incentives is by no means a sure bet. The AQMP proposes developing an action plan "as part of the AQMP public adoption process to identify the necessary actions by the District, the region, the State, the Federal government, and other partnerships to ensure the requisite levels of funding are secured as early as possible and sustained through 2031" (AQMP, ES-8). 28-2

In short, the AQMP proposes providing significant financial incentives to polluters to clean up their fleets, from funding that does not yet exist. Should the funding fail to materialize, the AQMP offers no meaningful back up plan, instead focusing on provisions in the Federal Clean Air Act that would allow for falling short of air pollution reduction goals (see AQMP, 4-44 to 4-45). In the meantime, the Basin's residents would remain captive to the region's poor air quality, and the associated negative health impacts. Taking this gamble poses an unacceptable level of risk to Los Angeles County residents, particularly those who are in our most vulnerable communities. 28-3

The implementation of this plan to improve air quality is critical to improving public health in the County. In principle, the Department of Public Health agrees with the overall goals. One aspect that is lacking is adequate attention to abatement of stationary source odorous emissions that impact health of nearby residents but often do not exceed applicable standards. Such emissions have become a critical issue with regard to recent significant community public health interventions, such as the Allenco Oil field site, the Sunshine Canyon Landfill community, and the Aliso Canyon gas leak disaster. The Health Effects section of the AQMP does not address or acknowledge odor issues, and related health effects from odors or other low-level exposures that emanate from facilities that are closely situated to communities. This is a significant gap in the AQMP. Given the County's recent responses to air emissions causing odor-related health effects, the AQMP should delineate improvements in the way that local, state, and federal agencies can prevent, survey, mitigate, and respond to odors. This issue should also be discussed in Chapter 8, "Beyond Requirements." 28-4

We strongly urge the SCAQMD to work with the necessary State and Federal agencies to adopt an AQMP that will meaningfully improve air quality and public health.

Sincerely,

HILDA L. SOLIS
Chair of the Board
Supervisor, First District

MARK RIDLEY-THOMAS
Supervisor, Second District

SHEILA KUEHL
Supervisor, Third District

Responses to Comment Letter from Los Angeles County Board of Supervisors
(Comment Letter #28)

Response to Comment 28-1:

The 2016 AQMP does propose a number of stringent regulatory measures aimed at reducing NOx and VOC emissions from a variety of stationary and mobile sources. These regulatory measures were established after a thorough analysis of all ozone-emitting sources and available methods and technologies to further reduce emissions. SCAQMD staff is not aware of any additional feasible regulatory measures. Incentive-based approaches are focused on accelerating high-emitting sources to transition to cleaner technologies sooner than would take place under regulations which generally focus on new mobile sources. Also, some sources are beyond the authority of the SCAQMD, thus the incentives are a way to gain emission reductions sooner than natural turnover of vehicles and equipment. Accelerating the deployment of cleaner technologies before future rulemaking is established allows the new technology to be commercially available, achieved in practice, feasible in more applications, cost effective, as well as a publicly acceptable. It should be noted that the Revised Draft 2016 AQMP has modified two incentive-only measures to include a future rulemaking commitments.

The specific sources of funding have yet to be finalized but staff is developing the Financial Incentive Funding Action Plan that maps out the potential opportunities to secure funding. Such funding would be sought on a federal, state and local level.

Response to Comment 28-2:

As noted in Response to Comment 26-3, the Financial Incentive Funding Action Plan will identify proposed actions to secure additional funding.

Response to Comment 28-3:

As part of the revised draft, staff is proposing that a one year period be given to identify actions to achieve additional emission reductions and initiate actions proposed in the Financial Incentive Funding Action Plan to secure funding. Staff will be reporting to the Governing Board on the progress on these activities. If steps are not taken to implement the identified actions or funding incentives are not secured in a timely manner, staff will recommend to the Governing Board to consider rule development within its legal authority or develop other enforceable mechanisms to achieve additional emission reductions.

Response to Comment 28-4:

While odor reduction is not the purpose of the AQMP that demonstrates attainment of the federal air quality standards for criteria pollutants, the SCAQMD takes nuisance concerns seriously. The SCAQMD has a nuisance rule, Rule 402 that *"a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property*." SCAQMD vigorously enforce this rule through Hearing Board actions, and if necessary, in court. In recent years, staff worked to alleviate odor issues from waste treatment facilities, trash and recycling facilities, and rendering plants through both enforcement actions and rulemaking. Further, Appendix I (*Health Effects*) of the AQMP has been updated to include a discussion of odors.

Comment Letter from Air-Conditioning, Heating, and Refrigeration Institute (Comment Letter #29)

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE
we make life better™

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www.ahrinet.org

August 19, 2016

Michael Krause
Planning and Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Re: Draft 2016 Air Quality Management Plan

Dear Mr. Krause:

These comments are submitted by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) in response to the South Coast Air Quality Management District's (AQMD) issuance of the draft 2016 Air Quality Management Plan (AQMP). AHRI is the trade association representing manufacturers of heating, cooling, water heating, and commercial refrigeration equipment. More than 315 members strong, AHRI is an internationally recognized advocate for the industry, and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR industry is worth more than $20 billion. In the United States alone, our members employ approximately 130,000 people, and support some 800,000 dealers, contractors and technicians.

We ask that staff consider the following comments regarding CMB-02, Emission Reductions From Commercial And Multiunit Residential Space And Water Heating, as proposed in the draft 2016 AQMP. This control measure mentions several components for achieving additional NOx emission reductions.

29-1

The proposal to specify the NOx emission limit for residential water heaters only in terms of ppm appears reasonable, in theory. However, as noted, all manufacturers currently comply with Rule 1121 based on the ng/J of output requirement. Contrary to the explanation in the description of this measure, this was not so much by choice, but rather because in the development of the rule this was presented as the requirement. The equivalent ppm NOx emission limit was provided in the rule only for relative comparison purposes. The premise that higher efficiency models of residential gas water heaters are emitting NOx at higher ppm rate than less efficient models complying with Rule 1121 needs to be evaluated with actual test data to establish whether it is sufficiently valid. A change to a ppm NOx limit may require manufacturers to retest their products. Such a testing burden should not be imposed on manufacturers without a clear determination that NOx emission reductions actually will be achieved. Also, there is an inherent benefit associated with higher efficiency water heaters; they use less energy. This proposal could have an unintended consequence of disincentivizing consumers to purchase higher efficiency water heaters. The statement that "replacement of standards efficiency water heaters with higher efficiency units does not currently result in lower NOx emission" is not substantiated by an actual field data. As much as it is a theoretical supposition, not a statement of fact.

The proposal to establish a NOx emission rule for commercial space heating equipment has been under discussion for some time. We are involved with the SCAQMD staff in the development of Rule 1111.1. However, the suggestion that the technology to reduce emissions in residential gas furnaces is transferable to commercial space heating equipment is an oversimplification that no longer should be included in this description. Recent correspondence from AHRI has alerted the SCAQMD to the problems in trying to develop models complying with Rule 1111. As we have noted, notwithstanding significant efforts on all involved parties, there are no residential gas furnaces complying with Rule 1111 available in the district today. There is no reason to believe that whatever solution is developed to resolve the current Rule 1111 situation will be transferable to commercial space heating equipment. The experience of both Rule 1111 and Rule 1121 is that implementing technology-forcing reductions in NOx emissions of gas-fired equipment is a difficult and complex undertaking. Rule 1111.1 should be developed solely on the consideration of the design and operating characteristics of the products covered by the rule. The rule development should not automatically assume that technologies used on products outside the scope of the rule can be applied to commercial space heating equipment. 29-2

The measure also proposes to develop a program to incentivize the replacement of older boilers, water heaters and space heaters with new, more efficient, low NOx boilers, water heaters and space heaters or zero-emitting alternative technology. We support the general concept of this incentive program. However, it is critically important that such programs provide the widest range of options to residential and commercial consumers so that they can chose the new, more efficient, lower NOx emitting equipment that best fits their needs. Those needs will be defined by various aspects such as first cost, installation costs, operating costs, the load of the particular installation, equivalency of function (e.g. the recovery rate of gas water heaters is faster than that of electric water heaters), and limitations of any particular option. An incentive program to meet the need of the SCAQMD to reduce NOx emissions will only be successful it provides options that meet the consumers' needs. Additionally, the actual benefit of NOx emission reductions must be assessed within the context of other SCAQMD and California Energy Commission activities to promote less energy use in residences and commercial buildings. This may be particularly significant when considering the cost/benefit of future NOx emission reduction measures. 29-3

AHRI appreciates the opportunity to provide these comments. If you have any questions regarding these comments, please do not hesitate to contact me.

Respectfully submitted,

Frank A. Stanonik

Frank A. Stanonik
Chief Technical Advisor

Responses to Comment Letter from Air-Conditioning, Heating, & Refrigeration Institute (AHRI) (Comment Letter #29)

Response to Comment 29-1:

The emission limits for water heaters and forced air furnaces are in the form of mass emissions per unit of heat provided to heat water or a building (useful heat). It is not in the form of mass per unit of heat produced from the fuel or per unit of heat available in the fuel. This heat output based emission limit allows higher efficiency units to emit NOx at a higher concentration (ppm) in the exhaust while emitting the same mass (gram or pound) of NOx per unit of heat absorbed by the water or provided to building space. An earlier examination of test results for units meeting the 40 ng/J limit did not indicate a pattern of high efficiency units emitting less NOx. Most unit's test results indicate they have emissions close to the rule limit. If the commenter can provide data on products from multiple manufacturers and multiple product lines indicating that NOx emissions from standard and high efficiency units of the same product line are significantly different, SCAQMD will revise this statement.

Response to Comment 29-2:

Some commercial furnaces use the same technology as residential units. They have a row of tubes or clamshell heat exchangers with individual burners. The commercial units simply have more rows of tubes or clamshells. Other types of commercial units use other types of burners and heat exchangers. Some manufacturers of these other types of units currently advertise NOx emissions less than 30 ppm. Based on these facts, staff believes reductions are possible from commercial furnaces, but these issues will be thoroughly addressed during the rulemaking process.

Response to Comment 29-3:

Staff appreciates support for incentive programs and does recognize that customer needs and public acceptance play a role in transitioning to new cleaner technologies, and thus in developing incentive program.

Comment Letter from Airlines for America (Comment Letter #30)

Airlines for America®

We Connect the World

August 19, 2016

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4182
submitted electronically at: https://onbase-pub.aqmd.gov/sAppNet/UnityForm.aspx?key=UFSessionIDKey
and emailed to: aqmp@aqmd.gov

Re: Comments on Draft 2016 Air Quality Management Plan

To Whom It May Concern:

On behalf of our members, Airlines for America® ("A4A")[1] thanks the South Coast Air Quality Management District ("SCAQMD" or "District") for providing this opportunity to comment on its Draft 2016 Air Quality Management Plan ("Draft 2016 AQMP"). We note from the outset that the Draft 2016 AQMP shares many elements and overlaps considerably with the State's Draft Sustainable Freight Action Plan ("Draft Action Plan") and – in particular – Proposed 2016 State Strategy for the State Implementation Plan ("State SIP Strategy"). As such we incorporate our comments on those documents by reference.[2]

As noted in both of those sets of comments, A4A and its member airlines have a very strong record of continually improving environmental performance while increasing our considerable contributions to the national and California economies. This record includes a long history of working with regulatory authorities at the international, national, state and local level to pursue policies and actions that protect public health and the environment while maintaining economic vitality and growth. We welcomed the approach adopted in both the Draft Action Plan and the State SIP Strategy, which envisioned improving and protecting public health and preserving and enhancing the California and local economies as co-equal imperatives. Similarly, we fully support the District's effort to develop its 2016 AQMP to attain compliance with National Ambient Air Quality Standards ("NAAQS") and its overall objective "[t]o ensure air quality goals will be met while maximizing benefits and minimizing adverse impacts to the regional economy."[3] However, just as we identified a number of significant concerns with the Draft Action Plan and State SIP Strategy, we have a number of concerns about the Draft 2016 AQMP. 30-1

[1] A4A is the principal trade and service organization of the U.S. airline industry. A4A's members are: Alaska Airlines, Inc.; American Airlines Group; Atlas Air, Inc.; Federal Express Corporation; Hawaiian Airlines; JetBlue Airways Corp.; Southwest Airlines Co.; United Continental Holdings, Inc.; and United Parcel Service Co.; Air Canada, Inc. is an associate member.
[2] Comments of Airlines for America on the Draft Action Plan, submitted July 6, 2016, electronically at www.casustainablefreight.org; Comments of Airlines for America on the Proposed SIP Strategy submitted July 18, 2016, electronically at www.arb.ca.gov/lispub/comm/bclist.php.
[3] Draft 2016 AQMP at ES-4.

Airlines for America Comments
Draft 2016 AQMP
August 19, 2016 - 2

Introduction

We are proud of our industry's exemplary record of simultaneous environmental and economic achievement, which is perhaps best reflected in U.S. Bureau of Transportation Statistics data confirming that system-wide (including domestic and international operations) U.S. airlines burned 6 percent less jet fuel in 2015 than in 2000, even though they carried 24 percent more passengers and cargo on a revenue-ton-mile basis. The most recent data available from the U.S. Environmental Protection Agency shows that less than two percent of domestic greenhouse gas ("GHG") emissions is attributable to commercial aviation and the sector exhibits much lower growth from 1990 levels (5%) – and from a much smaller base – compared to the transportation sector (17%) and on-road sources in particular (24%).[4] At the same time, aviation drives about 5% of gross domestic product both nationally and in California, with commercial aviation accounting for the vast majority of this activity in the State, providing 856,000 jobs and over $112 billion in economic activity.[5]

U.S. airlines have achieved this level of simultaneous economic and environmental performance because we have relentlessly pursued and implemented technology, operational and infrastructure measures to minimize our environmental impacts. For example, A4A and our members have committed the time and resources needed to support the development of economically reasonable, technologically feasible international standards for aircraft engines and aircraft governing noise, NOx, PM, and CO2, through the International Civil Aviation Organization / Committee on Aviation Environmental Protection ("ICAO/CAEP"). The District has recognized that, as a result of the successive, increasingly stringent NOx standards developed by ICAO/CAEP, aircraft engines produced today must be about 50% cleaner than under the initial standard adopted in 1997.[6] A4A also has been instrumental in a global aviation coalition that has established specific, ambitious goals for reducing CO2 emissions from international aviation, including achieving carbon-neutral growth from 2020 onward. As a founding member of the Commercial Aviation Alternative Fuels Initiative® ("CAAFI"), we have provided key support for the development of low-carbon, low-PM[7] sustainable alternative jet fuel, which already is being produced in California and fueling flights from Los Angeles International Airport ("LAX").[8] With respect to airport ground support equipment ("GSE"), even despite our view that the State lacks the authority to regulate in this area we nonetheless cooperated with the State as it developed a suite of emissions regulations applicable to GSE (as well as other engine types), including its In-Use Off-Road Diesel ("ORD") regulation, the Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines ("PE-ATCM") and related Statewide Portable Equipment Registration Program ("PERP") rule, and Off-Road Large-Spark Ignition ("LSI") regulation.

30-2

[4] See Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (April 2016), Table A-115.
[5] *The Economic Impact of Civil Aviation on the U.S. Economy – Economic Impact of Civil Aviation by State* (January 2015) at 23.
[6] *Preliminary Draft of the 2016 AQMP SCAQMD Mobile Source Measures* (April 14, 1016).
[7] Alternative jet fuel has a greater than 50% reduction in PM emissions compared to conventional jet fuel. See http://www.virent.com/news/virent-bio-jet-provides-more-than-50-reduction-in-particulate-matter-emissions/
[8] United Airlines has begun using renewable jet fuel at LAX and has an agreement with AltAir Fuels for the purchase of up to 15 million gallons over a three-year period. In addition, FedEx and Southwest Airlines have also each signed agreements with Red Rock Biofuels to purchase 3 million gallons per year of renewable jet fuel for use in California beginning in 2017.

More details about our economic and environmental record and various efforts and activities that have enabled our achievements are presented in our Draft Action Plan and State SIP Strategy comments. Here we reemphasize that we are committed to building on our strong environmental record and recognize that continued progress from all sectors is needed to meet the concurrent imperatives to reduce emissions while preserving economic growth and vitality. It is in this spirit that we present these comments and respectfully request the District to consider them as it refines the Draft 2016 AQMP. 30-2 Con't

Prefatory Note on Scope and Purpose of These Comments

Before presenting our comments, we note that they do not (and are not intended to) address each and every proposed action or program identified in the Draft 2016 AQMP that may affect aircraft, GSE or other sources of interest to airlines. While these comments may repeat or emphasize points already made in our Draft Action Plan and State SIP Strategy, we intend to direct comments here to issues raised for the first time and/or brought into further focus by the Draft 2016 AQMP. Accordingly, we underscore that we have incorporated our Draft Action Plan and State SIP Strategy comments by reference and ask the District to consider the information and suggestions presented there as they relate to the Draft 2106 AQMP.

In addition, we also emphasize that these comments (inclusive of those incorporated by reference) are intended to assist the District as it works to refine the document and are not intended to constitute a comprehensive or final response to any specific policy, project, action or measure identified in the Draft 2016 AQMP. In particular, any actions that will need to be adopted and implemented by State or Federal agencies will be subject to full notice and comment requirements under applicable law. Similarly, measures to be defined, proposed or adopted in the future by the District also will be subject to such requirements. Under proposed measure "MOB-04: Emissions Reductions at Commercial Airports," for example, the District would "convene a working group" of stakeholders to assist the District in developing as yet undefined "mechanisms to implement this measure," which could include as yet undefined "regulation." Clearly, before any such "mechanism" could be approved or implemented the District would need to formally propose the mechanism and provide full opportunity for stakeholders to comment. Accordingly, A4A and our members expressly reserve any and all rights to comment on any regulatory measure, policy or other "mechanism" identified in the document. 30-3

Comments

Emissions Inventories

An accurate and transparent emissions inventory is perhaps most fundamental to deriving a viable strategy for reducing emissions. In our State SIP Strategy comments we expressed concern regarding the lack of clarity on the basis for the estimates (both historical and future) in the inventory of emissions that may be attributed to the aviation sector. Part of our concern was that the emissions reductions the State expected to be derived from "further deployment of cleaner technologies" with respect to "aircraft" were "based on current growth forecasts, which are undergoing review"[9] to which we do not yet have access. More detail, including underlying growth factors used to project future expected emissions is provided in the Draft 2016 AQMP 30-4

[9] State SIP Strategy at 25, note to Table 4.

and we appreciate the efforts of SCAQMD to informally discuss the methodology and data used to derive the Draft 2016 AQMP inventories.

Still, we do not have clarity regarding the data and methodologies used to develop future inventories (e.g., the assumptions used regarding fleet turnover and penetration of cleaner technologies into the fleet) and how they relate to those used to estimate possible future emissions reductions. Most glaringly, while the State SIP Strategy indicates that measures implemented by the California Air Resources Board ("CARB") could reduce NOx emissions from aircraft in the District by 17 tons-per-day ("tpd") in 2023,[10] this value is more than the total of 15.52 tpd NOx emissions the District projects will be emitted by aircraft in 2023.[11] It is obviously impossible to reduce emissions from any source by more than 100%. This underscores the need for both the State and the District to provide more robust information regarding the derivation of the emission inventories and expected results from various potential actions identified in both the State SIP Strategy and the Draft 2016 AQMP. Without this information it is very difficult, if not impossible, to understand the viability of the inventories and comment meaningfully on the control strategy outlined in the Draft 2016. Certainly, before any action or initiative targeting sources of interest to our industry goes forward, the District will need to provide a more transparent, detailed explanation of its conclusions regarding existing and projected emissions levels and the emissions reductions any particular action or initiative is expected to achieve.

30-4 Con't

"Fair-Share" Approach

The District has identified a "fair-share" strategy as one of the primary objectives of the Draft 2016 AQMP. As we understand this strategy, it effectively assigns a proportional amount of emissions reductions to particular sources equivalent to that needed Districtwide to achieve the NAAQS. In short, the District projects that NOx emissions must be reduced 43% below the projected 265 tpd (to 150 tpd) in 2023 and 55% below the projected 224 tpd (to 100 tpd) in 2031 – as result, the "fair-share" reductions targeted under the Draft 2016 AQMP for particular sources are 43% and 55% below the projected level of emissions in 2023 and 2031 respectively.

30-5

While we understand the appeal of this approach as a kind of targeting or benchmarking exercise, it is in our view an inappropriate means of formulating specific policies, actions or other measures that should be pursued to achieve emissions reductions needed to achieve the NAAQS. Most importantly, the approach arbitrarily assigns emissions reductions to be expected from a particular source or class of sources without regard to the state of technology development and deployment or cost-effectiveness of measures relative to other sources. Such considerations are critical to development of any credible set of emission reduction policies and/or measures.[12] Again, before any action or initiative targeting sources of interest to our industry goes forward, the District will need to provide a more transparent, detailed explanation of the basis for concluding that technologically feasible, cost-effective measures exist.

[10] State SIP Strategy, Table 4.
[11] Draft 2016 AQMP, Appendix III, 2023 Summer Planning Emissions by Source Category in South Coast Air Basin (Tons/Day).
[12] There also is some concern that there is some incentive to conclude emissions from sources that are not subject to District jurisdiction are large and thereby unjustifiably reduce the burden for reducing emissions borne by such sources.

Need to Recognize Limits on State and Local Authority to Regulate in the Aviation Sector

In our comments on the Draft Action Plan and the State SIP Strategy, we emphasized that it is absolutely essential that the State and its political subdivisions respect under that federal law they lack authority to regulate aircraft, aircraft engines and aviation fuels and face strict limitations on their authority to regulate the aviation sector generally. We will not repeat the more extensive legal discussion presented in our Draft Action Plan and State SIP Strategy comments here. It is important to understand, however, that the U.S. Congress has enacted federal aviation laws establishing these limits in recognition that commercial aviation safety and the efficiency of the National Airspace System depends on the application of a consistent set of regulatory requirements by a primary federal agency – the Federal Aviation Administration – with the necessary expertise and capability to develop and administer those requirements. This has made the development of an extremely safe aviation system that contributes enormously to local, regional and national economic prosperity possible. As such, providing "authority to the state or SCAQMD" to supplant the "jurisdiction of the federal government" over aircraft is a counterproductive idea that we oppose.[13] We also note that in previous comments we have questioned in the strongest possible terms the viability of "[p]artnering with airports to incentivize cleaner aircraft to come to California airports," a proposal that also is referenced in the Draft 2016 AQMP.[14] While phrased in terms of "incentives," the proposal actually appears to contemplate disincentives. In this context, we highlight the reference to "mitigation fees" that appears in the description of Control Measure MOB-04 in District's *Initial Study for the Draft Program Environmental Impact Report for: 2016 [AQMP]* ("Initial Study").[15] This is the type of "incentive" that EPA itself has determined is "not reasonably available" to States[16] and airports have no authority to impose. Similarly, while it is true that "[a]irlines are constantly evaluating ways to improve passenger transportation and overall system efficiencies" and that "[s]uch strategies have the potential to further reduce criteria pollutants,"[17] we are very concerned by the implication that such strategies could be transformed into regulatory mandates or otherwise implemented by the State, District or other political subdivision of the State, including airport authorities. As we indicated to the State, we would oppose these types of initiatives and we also urge the District to focus instead on affirmative partnerships and positive incentives that would support the development of cleaner, more efficient aircraft and aircraft engines and their deployment into the fleet. 30-6

We do understand that the Control Measure MOB-04 is intentionally amorphous and the District will depend on input from a "working group" comprised of stakeholders to develop viable "mechanisms to implement this measure." We will gladly devote the resources necessary to participate in that working group.

Positive Incentives

We applaud the District for recognizing that significant funding will be needed to achieve a level of penetration of new, cleaner technologies into mobile sources if it is to achieve the level of emissions reductions it anticipates will be necessary to meet the NAAQS. We support positive "incentive programs" as a tool to achieve needed reductions as long as they are structured to ensure that they do not circumvent the strict limits on the authority of the State and its political 30-7

[13] Draft 2016 AQMP at ES-5.
[14] Draft 2016 AQMP at 4-33.
[15] Initial Study at A-7.
[16] *See*, 66 Fed. Reg. 57160, 57189 (Nov. 11, 2001).
[17] Draft 2016 AQMP at UV-A-128.

subdivisions. We will look forward to working with the District to identify viable funding mechanisms that could have a positive impact on emissions from sources of interest to our industry.

30-7
Con't

CONCLUSION

We appreciate the opportunity to comment on this Draft 2016 AQMP. We continue to strive to improve our environmental performance and contribute to the prosperity of California and its residents and, in that spirit, look forward to conferring with the District as it refines and finalizes the Draft 2016 AQMP.

Sincerely yours,

Timothy A. Pohle
Senior Managing Director, Environmental Affairs

Responses to Comment Letter from Airlines for America
(Comment Letter #30)

Response to Comment 30-1:

Staff appreciates the support for the development of the Plan and participating in the public process.

Response to Comment 30-2:

Information regarding the U.S. airline industry is duly noted.

Response to Comment 30-3:

The measures and strategy provided in the Plan are broad in nature and some of them warrant further work to determine technical feasibility or achievable emission reductions. Staff recognizes that future decisions would be vetted through working groups and workshops providing the stakeholders and interested parties with opportunities to participate, review and comment. Staff would not limit comments on these concepts in the Plan to just this period of time.

Response to Comment 30-4:

The emissions inventory is updated as the AQMP is developed and new information is provided. For example, after the release of the Draft 2016 AQMP in June, we revised aircraft emissions, as we received newer data reflecting SCAG's newest growth forecast. Staff is open to work to improve the emissions inventory so the most accurate data is included in the Final AQMP and submitted to U.S. EPA as part of the Plan in compliance with the Clean Air Act requirements.

There was a typo on the CARB 2016 SIP strategy document. The 2023 emission reductions associated with aircraft category is 11 TPD, not 17 TPD. This is reflected in the draft final version of the AQMP.

Response to Comment 30-5:

The SCAQMD, CARB and U.S. EPA recognize the need for emission reductions from local, state and federal sources. As such, a “fair share” of reductions needs to take place. The percent NOx emission reductions needed to meet the 8-hour ozone standards by 2023 and 2031 at 45 and 55 percent, respectively, would be a guide although not a definitive endpoint. As rightfully noted by the commenter, other factors such as technology development or cost-effectiveness, needs to be considered. Staff did take the effort to study the proposals in the control strategy to be sure the measures could be feasibly implemented and within an acceptable cost effectiveness range. As a result, it is not expected that each and every source category can reduce emission by the exact same percentage. In some cases, more technical evaluation will need to take place, and thus reductions are deemed “to be determined” and are not committed to in the SIP. Incentives could assist those measures whereby it is not yet cost effective to transition to cleaner technologies, but financial support will help ensure it is cost-effective for the user to operate cleaner equipment.

Response to Comment 30-6:

Staff appreciates the comments regarding authority. Staff believes that working with A4A and airport authorities, we can identify and quantify additional emission reductions from existing actions and future

actions that are being implemented to improve operational efficiencies in aircraft operations (being taken by individual airlines) and by airport authorities. Staff does not have any preconceived concepts for incentives and such concepts will be identified and developed through a public process. We welcome A4A's participation in the process.

Response to Comment 30-7:

Staff appreciates support for incentive programs and is developing the Financial Incentive Funding Action Plan that maps out the potential opportunities to ensure the proposals secure funding. Such funding will be sought on a federal, state and local level.

Comment Letter from Association of American Railroads (Comment Letter #31)

ASSOCIATION OF AMERICAN RAILROADS
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August 19, 2016

Michael Krause
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

SUBMITTED VIA EMAIL

RE: Railroad Comments on SCAQMD Draft AQMP – Measure MOB-02 [Emission Reductions at Rail Yards and Intermodal Facilities]

The Association of American Railroads ("AAR") and its members appreciate the opportunity to provide initial comments on draft Measure MOB-02 [Emission Reductions at Rail Yards and Intermodal Facilities] of the South Coast Air Quality Management District's ("District") Draft Air Quality Management Plan ("Draft AQMP"). AAR has several members that operate in California; however, all AAR members have an interest in discussions that involve locomotive idling measures.[1]

AAR and its members have worked with state and federal regulators to reach meaningful and carefully considered resolutions to environmental concerns in California and the nation. Over the last two decades, AAR and its members made significant equipment investments in California and voluntarily agreed to enforceable measures that were effective in significantly reducing diesel particulate matter and NOx emissions from locomotives and other rail operations in the state and particularly in the District. With that context in mind, AAR provides the input below on draft Measure MOB-02. 31-1

[1] The Association of American Railroads ("AAR") is a national, non-profit trade association that represents the Nation's major freight railroads. AAR's membership includes freight railroads that operate 83 percent of the line-haul mileage, employ 95 percent of the workers, and account for 97 percent of the freight revenues of all railroads in the United States. AAR's membership also includes passenger railroads that operate intercity passenger trains and provide commuter rail service. AAR is the Nation's leading railroad policy, research, standard setting, and technology organization. AAR and its members are committed to operating the safest, most efficient, cost-effective, and environmentally sound rail transportation system in the world.

At its core, draft Measure MOB-02 impermissibly seeks to implement the District's 2006 anti-idling rules encompassed in Rules 3501 and 3502 (collectively, "3500 Rules"). Yet, on April 30, 2007, the United States District Court for the Central District of California ruled that the 3500 Rules were preempted by the Interstate Commerce Commission Termination Act ("ICCTA") and that the District even lacked authority under state law to promulgate the 3500 Rules.[2] As a result, on May 17, 2007, the U.S. District Court permanently enjoined the District from implementing or enforcing the 3500 Rules:

> [T]he District, its Governing Board, and their board members, officers, agents, employees, attorneys and all others acting in concert or participation with them, are hereby *permanently enjoined from implementing or enforcing* any provision of Rules 3501, 3502 or 3503.[3]

31-2

A true and correct copy of the permanent injunction is attached hereto as Exhibit A for your record.

On September 15, 2010, the Ninth Circuit Court of Appeals upheld the permanent injunction, affirming the District Court's ruling on the basis of ICCTA preemption.[4] Presently, the permanent injunction remains in effect. The Draft AQMP acknowledges this fact, noting that a "federal District Court decision prevents these rules from being implemented." The District should therefore remove Measure MOB-02 from the Draft AQMP.

Furthermore, the 3500 Rules remain preempted by ICCTA even though the District submitted Rules 3501 and 3502 (but not 3503) to the California Air Resources Board ("ARB") for approval and forwarding to EPA as a potential State Implementation Plan ("SIP") revision. On December 29, 2014, the United States Surface Transportation Board ("STB") opined that even if incorporated into the SIP, the 3500 Rules would be preempted by ICCTA. STB explained that:

31-3

> "[A]ctions taken and regulations enacted under federal environmental statutes or other federal statutes may directly conflict with the purposes and regulatory scheme under the Interstate Commerce Act. When such a conflict occurs, the [STB] or a court must determine whether the two federal statutes and their applicable regulatory regimes can be harmonized. [Citations omitted.] ... [I]f EPA were to approve the Rules as part of California's SIP, it appears, based on the current record, that the Rules *likely would be preempted* by [ICCTA] § 10501(B) *even under the harmonization standard* (emphasis added)."[5]

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[2] *Ass'n of Am. R.R. v. S. Coast Air Quality Mgmt. Dist.*, 2007 U.S. Dist. LEXIS 65685 at *26 (C.D. Cal. 2007).
[3] *Ass'n of Am. R.R. v. S. Coast Air Quality Mgmt. Dist.*, No. CV06-1416, Document 193 (C.D. Cal. May 17, 2007) (judgment granting permanent injunction).
[4] *Ass'n of Am. R.R. v. S. Coast Air Quality Mgmt. Dist.*, 622 F.3d 1094, 1098 (9th Cir. 2010).
[5] *Id.* At p. 8 (emphasis added)

A true and correct copy of STB's 2014 Decision is attached hereto as Exhibit B. Thus, even if EPA approves the SIP revision at some point in the future, the approval will not automatically eliminate ICCTA preemption. Of course, the possible inclusion of the 3500 Rules in an approved SIP would not affect the status of the permanent injunction, which will remain in effect unless and until it is lifted by the U.S. District Court.

31-3
Con't

For the foregoing reasons, Measure MOB-02 has no legal basis and should not be included in the Draft AQMP. AAR therefore requests that the District remove Measure MOB-02 from the Draft AQMP. AAR and its members reserve the right to provide further legal, technical, and policy comments on the next draft of the AQMP and CEQA documents.

Sincerely,

Evelyn R. Nackman

Attachments:
1) Exhibit A - Permanent Injunction
2) Exhibit B - 2014 STB Decision

ASSOCIATION OF AMERICAN RAILROADS
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Associate General Counsel

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August 19, 2016

Michael Krause
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

SUBMITTED VIA EMAIL

RE: AAR Comments on Facility Targets in MOB-02

The Association of American Railroads (AAR) and its member companies appreciate the opportunity to comment on the South Coast Air Quality Management District's ("District") Draft 2016 Air Quality Management Plan ("Draft AQMP").

Measure MOB-02 in the Draft AQMP calls for the District to establish "emission reduction targets" for rail yards. The District lacks authority to establish emission reduction targets for rail yards. Moreover, the Draft AQMP has failed to demonstrate that facility caps will not have a chilling effect on job growth and lead to increased vehicle miles traveled (VMT) and emissions, as well as increase the cost of rail transportation. Consequently, all references to facility targets should be removed from the next draft of the AQMP. The AAR also endorses the comments submitted by BizFed and CCEEB. 31-4

We appreciated the opportunity to engage with District staff through the AQMP Advisory Group and we look forward to our continued partnership.

Sincerely,

Evelyn R. Nackman

Responses to Comment Letter from Association of America Railroads
(Comment Letter #31)

Response to Comment 31-1:

Staff appreciates the support for the development of the Plan and participating in the public process.

Response to Comment 31-2:

Staff is revising the write-up on MOB-02 to limit the discussion of Rules 3501 and 3502 to the background and regulatory history sections. Please see Draft Final 2016 AQMP Appendix IV-A at pages IV-A-133–IV-A-137. The proposed implementation approach for MOB-02 is a collaborative approach to identify actions, which may be voluntary or regulatory in nature that could potentially result in additional emission reductions. The actions can be at the local, state, or federal level.

MOB-02 does not seek to impermissibly implement the District's 2006 anti-idling rules encompassed in Rules 3501 and 3502, as the commenter suggests. Rather, MOB-02 seeks to assess and identify potential actions to further reduce emissions associated with mobile sources operating in and out of rail and intermodal facilities. The identified actions can be voluntary or regulatory or other enforceable mechanisms adopted by local, state, or federal governmental agencies. The description of the draft measure notes that "[i]f emission reductions are to be included in the SIP, enforceable commitments to ensure that the emissions are permanent will need to be made and may be in the form of a regulation adopted by the SCAQMD within its legal authority or by other enforceable mechanisms." AQMP 4-28. The District acknowledges that a federal District Court decision prevents Rules 3501, 3502, and 3503 from being implemented until they become federally enforceable through inclusion in the SIP and the district court lifts the injunction. However, the District disagrees that the injunction prevents the District from including MOB-02 – which seeks to assist in implementing the State SIP Strategy "Further Deployment of Clean Technologies" measures related to on-road heavy-duty vehicles, off-road equipment, and federal sources that operate in and out of railyards and intermodal yards – in the AQMP.

Response to Comment 31-3:

As the commenter notes, the District has submitted Rule 3501 and 3502 to CARB for approval and forwarding to EPA as a potential SIP revision. Shortly after the rules were adopted, the railroads challenged the District's adoption of the rules and on appeal, the Ninth Circuit upheld the lower court's injunction and declined to harmonize ICCTA and the CAA. However, the court reasoned that because the 3500 rules had not yet been approved by EPA for inclusion into the SIP and did not have the force and effect of federal law that would require harmonization, "to the extent that state and local agencies promulgate EPA-approved statewide plans under federal environmental laws (such as statewide implementation plans under the Clean Air Act), ICCTA generally does not preempt those regulations because it is possible to harmonize ICCTA with those federally recognized regulations…" *Ass'n of American Railroads v. SCAQMD*, 622 F.3d 1094, 1098 (9th Cir. 2010). Heading the court's advice, the District submitted the rules to CARB. The railroads sought an order holding the District in contempt for allegedly violating the injunction but the court rejected the motion, citing the railroads' own arguments before the Ninth Circuit that the proper course of action was for the District to submit the rules for inclusion in the SIP, where they and the Clean Air Act could be harmonized with ICCTA.

While the Surface Transportation Board later denied EPA's request to issue a declaratory order regarding whether the 3500 Rules, if included in the SIP, would be preempted by ICCTA, it provided an opinion, as

"guidance", for further proceedings. As the commenter noted, the guidance concluded that it was "likely" that the rules would be considered preempted once included in the SIP. Unfortunately, STB issued this "non-decision" in a manner which prevented the District from challenging it in court, because STB took no judicially-reviewable final action. Yet at the same time, its words are being used against the District as though an actual decision had been reached. The District believes the STB's "guidance" is legally erroneous and has continued to request that EPA approve Rules 3501 and 3502 into the SIP. The District does not dispute the commenter's statement that even if EPA approves the 3500 rules into the SIP in the future, it will not "automatically eliminate ICCTA preemption", as ICCTA and the Clean Air Act will have to be harmonized and upheld to the extent possible. The District also does not dispute that the permanent injunction will remain in effect until it is lifted by the U.S. District Court.

However, for the reasons noted in the response above, the District does not believe that MOB-02 has no legal basis. For that reason, the District is not excluding it from the AQMP.

Response to Comment 31-4:

Staff is revising the write-up on MOB-02 to clarify its intent to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures. Staff will consider the economic impacts of any proposed regulations through the working group process and the socioeconomic impact assessment. Staff will also consider other enforceable mechanisms such as agreements with affected stakeholders.

Comment Letter from Building Industry of Southern California, Inc. (Comment Letter #32)

Building Industry Association of Southern California, Inc.

August 19, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 92765

RE: Draft 2016 Air Quality Management Plan Comments

Dear Dr. Fine:

The Building Industry of Southern California, Inc. (BIASC) is pleased to provide the following comments to the Draft 2016 AQMP in continuing collaboration with the SCAQMD to produce a final plan which will both serve the goals of the District in a productive and cost effective approach, and serve the constituency and stakeholders of the SCAQMD region, through improved air quality, health benefits and economic opportunity.

The Building Industry Association of Southern California, Inc. (BIASC) is a regional trade association that represents more than 1,100 member companies within a six county region and is comprised of Chapters in Orange, Los Angeles/Ventura, Riverside/Imperial and San Bernardino counties. Together, BIASC's members build most of the new home communities throughout the same six-county region. 32-1

This AQMP will certainly be pivotal in reaching the federal attainment goals for both PM 2.5 and moving the ball forward towards ultimate Attainment status for the south coast basin. The current Draft AQMP has a number of measures which have been included into the District's attainment strategy and calculations and as such, are intended to be accountable in the State Implementation Plan (SIP). Additionally, the Draft AQMP contains a number of measures not yet determined to be viable and potential emission reductions from the measures have not be quantified and are not included in the attainment strategy. These "To Be Determined" (TBD) measures are numerous and represent a significant unknown element to the 2016 Draft AQMP. It is our hope that these TBD measures will be treated as items for further study rather than "placeholders" for intended future rulemakings. 32-2

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An Affiliate of the National Association of Home Builders and the California Building Industry Association

Baldy View
LA/Ventura
Orange County
Riverside

EGM-01: Emission Reduction from New Development and Redevelopment Projects:

BIASC along with several coalition partners provided earlier comments to the EGM-1 control measure description which AQMD staff largely incorporated into this current Draft, for which we are appreciative. We look forward to continuing collaboration on the final Plan as well as in the implementation of the AQMP beginning in 2017.

While this measure is currently not included in the attainment strategy and emission reduction calculations, we remain aware of the intention to continue to explore potential application of an indirect source rule (ISR), with the SJVAPCD rule 9510 as a primary comparative value.

Affordability is a major contributor to the increasing critical housing shortage in southern California. Regulatory efforts ranging from the Federal, State and Regional levels are often disjointed, redundant and counter-productive, leading to inordinate cost impacts to new home construction. BIASC notes that several layers of regulatory structures exists that addresses AQ concerns including the recently adopted Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) which provides a primary template for integrating land use and transportation planning region wide, while reducing Green-House-Gas (GHG) emissions though intended reduction in vehicle trips. The California Environmental Quality Act (CEQA) also provides a comprehensive environmental analysis for AQ, including GHG analysis. BIASC opposes redundant and overlapping regulatory efforts as major contributors to increasing the cost of housing.

32-3

BIASC opposed the earlier AQMD measure PR-2301 on both jurisdictional grounds as well as infringement to local land use control authority. While we remain opposed to similar rule development on the same grounds, we are committed to close collaboration with SCAQMD to explore all options including technologies, BMP's and other innovations to move the ball forward towards eventual attainment status for the SCAQMD region.

Additionally, we strongly oppose the implementation of fee based mitigation as an ineffective approach to meeting air quality improvement goals, and encourage incentive based approaches targeted at reducing both construction costs and encouraging environmentally friendly consumer behavior.

BIASC plans to be an active participant in the EGM-1 Working Group and encourages the District to reform that group early in the process following adoption of the 2016 AQMP by the Governing Board.

BCM-03: Further Emission Reduction from Paved Road Dust Sources:

BIASC suggests removal of language in this measure that references a review of National Pollution Discharge Elimination System (NPDES) measures in what we see as an infringement of the Regional Water Quality Control Board jurisdictional authority, or at a minimum a needless complication of intensions. 32-4

BIASC looks forward to continuing to work with the SCAQMD to finalize the 2016 AQMP and offers these comments in the spirit of cooperation and good public policy outcomes.

Respectfully,

Steven S. Schuyler
Executive Vice-President, Government Affairs
Building Industry Association of Southern California

Responses to Comment Letter from Building Industry Association of Southern California, Inc. (BIA) (Comment Letter #32)

Response to Comment 32-1:

Staff appreciates the collaboration during the development of the Plan and participating in the public process.

Response to Comment 32-2:

The intent of the measure is to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measure. Emission reductions are not identified at this time in part because they may overlap with reductions from the State strategy. Additional emission reductions identified through a public process will be credited in the SIP as part of future Rate-of-Progress reporting and future AQMP revisions. Please see Response to Comment 7-5 for discussion on the TBD measures.

Response to Comment 32-3:

As the commenter is aware, there is a requirement to implement “All Feasible Measures,” particularly in areas of extreme nonattainment such as the South Coast Air Basin. Staff wants to re-convene the working group to consider the concerns raised in the comments including the imposition of a fee in lieu of taking physical action during the development process. Staff also recognizes the comments regarding redundancy in regulatory efforts and will take all issues under consideration as part of the public process. Any mitigation fee would be proposed as an optional alternative to direct emission reduction. Staff looks forward in working with the industry on this measure.

Response to Comment 32-4:

Please see Response to Comment 6-2 with regard to the National Pollution Discharge Elimination System (NPDES) permit review in BCM-03. In short, the measure does not seek to “review” NPDES permit requirements or any attempt to change such requirements but rather to consider them in developing the control measure.

Comment Letter from BYD Heavy Industries (Comment Letter #33)

BYD Heavy Industries
1800 S Figueroa St.
Los Angeles, CA 90015

August 19, 2016

South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

Re: Comments on Draft 2016 South Coast Air Quality Management Plan

Dear South Coast Air Quality Management District:

BYD Heavy Industries ("BYD") appreciates the opportunity to comment on the draft Air Quality Management Plan ("AQMP").

I. Introduction

BYD is a global manufacturer of zero-emission light-duty and heavy-duty battery electric vehicles. With its North American offices headquartered in Los Angeles, CA and multiple manufacturing facilities in Lancaster, CA, BYD seeks to support policy agendas that squarely address climate change and its associated dangers.

BYD applauds the ambitious goals set out in the AQMP and, as a member of the Los Angeles community, stands ready to do its part in making those goals a reality. Given the reality of finite resources available to address the region's air quality challenges, *it is critical that funding decisions be made with the mindset of achieving maximum emissions reductions per dollar spent.* With that in mind, BYD offers the following comments on the draft 2016 AQMP. 33-1

II. Mobile Source Control Strategies

Prioritize Commercially Available Zero-Emission Options

Incentive-based programs form an important component of the AQMP's control strategies, especially for NOx control. These urgent mitigation needs are compounded by the realities of limited funding resources, highlighting the importance of directing what funding is available toward the most effective solutions. *Therefore, in cases where a zero emission solution is available, no funding should be directed toward any technology type that results in emissions*. 33-2

Battery electric drayage trucks, transit buses, forklifts, and medium freight and delivery trucks are already commercially available and ready to meet the needs of their respective industries. Providing funding for diesel, near zero, hybrid and alternative-fuel solutions

that will continue to emit more greenhouse gases and criteria air pollutants makes no sense when completely zero-emission solutions are commercially available. The opportunity to deploy as many of these completely zero-emission heavy-duty vehicles as possible should be aggressively seized. 33-2 Con't

Positive Feedback Loops

Indeed, front-loaded investments directed toward funding the price difference between zero-emission heavy-duty vehicles and their conventional counterparts will cause that gap to narrow quickly. BYD estimates that once a program like this funds 1,000 vehicles, per vehicle pricing will drop by 30% due to efficiencies achieved by economies of scale. This price drop could be achieved in one year if the AQMP directed $200,000,000 toward a specific vehicle type, such as drayage trucks. This type of early investment strategy will allow advanced technologies to scale quickly, thereby reducing, or even eliminating, the need for incentive funding in the mid- to long-term. 33-3

Additionally, year over year decreases in battery pricing due to improved density will make these vehicles even more affordable. It should also be noted that the reduced number of mechanical parts found in electric vehicles allows for significant operational and maintenance savings. As a result of these factors, battery electric heavy-duty vehicles will become cheaper to own and operate than internal combustion alternatives.

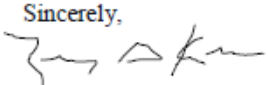
Getting Money Out the Door

Time is of the essence with respect to mitigating the emissions currently choking the region. As such, BYD recommends that funding be disbursed utilizing voucher systems, akin to the California Air Resources Board's Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP). 33-4

III. Conclusion

The goals outlined in the AQMP are thoughtful and ambitious. They will be all the more effective by directing funds toward technologies that achieve the greatest emission reductions, rather than intermediary technologies. BYD thanks the South Coast Air Quality Management District for the opportunity to provide comments.

Sincerely,



Zach Kahn
Director of Government Relations
BYD Heavy Industries
zach.kahn@byd.com

Responses to Comment Letter from BYD Heavy Industries
(Comment Letter #33)

Response to Comment 33-1:

Staff appreciates your participation in the AQMP development process and comments on the Draft Plan. Staff agrees that the most cost effective approaches are preferred in achieving maximum emission reductions for less money spent.

Response to Comment 33-2:

The Revised Draft Plan highlights the priority to maximize emission reductions utilizing zero-emitting technologies when cost-effective and feasible, and near-zero emission technologies in all other applications. Staff supports multiple pathways to reduce emissions but recognizes the more stringent ozone standards will be very challenging to meet without zero-emitting technologies, where feasible. In some applications, near-zero technologies may be needed to "bridge the gap" to zero emission technologies and to attain the needed reductions by the attainment deadlines for the 1-hr and 80 ppb 8-hr ozone standards.

Response to Comment 33-3:

Staff agrees that over time, zero-emitting technologies will become more commercially available, feasible in more applications, and cost-effective.

Response to Comment 33-4:

Staff agrees that prompt funding is important, and will consider all options in the dispensing of incentive funding and will consider the voucher program option as noted in the comment. These ideas will be discussed and considered during the working group meetings when the structure of the program is developed. Staff encourages all interested parties to participate at that time.

Comment Letter from California Construction & Industrial Materials Association (Comment Letter #34)

CALCIMA
California Construction and
Industrial Materials Association

August 19, 2016

Michael Krause
Program Supervisor
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Re: Comments on DRAFT 2016 Air Quality Management Plan

Dear Mr. Krause,

California Construction & Industrial Materials Association (CalCIMA) appreciates the opportunity to comment on the South Coast Air Quality Management District's (District) draft 2016 Air Quality Management Plan (AQMP). Moving the District's air basin into attainment is a step toward improved air quality and improved economic growth by increasing the ability of businesses to operate in this region.

CalCIMA is a statewide trade association representing construction and industrial material producers in California. Our members supply the materials that build our state's infrastructure, including public roads, rail, and water projects; help build our homes, schools and hospitals; assist in growing crops and feeding livestock; and play a key role in manufacturing wallboard, roofing shingles, paint, low-energy light bulbs, and battery technology for electric cars and windmills.

CalCIMA is in support of an AQMP that provides an outline of methods to clean our air that still facilitates a reasonable business environment through regulations, workforce quality, and living environment. Accordingly, CalCIMA is highly encouraged that the District is proposing implementation of incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality. As an industry that has invested hundreds of millions of dollars to comply with the federal Clean Air, we find it commendable that the District recognizes the value of this past investment by committing to the development and administration of future incentive funding. Over the years, the districts' industries and agencies have been targeted to replace an extensive amount of existing equipment in order for our region to attempt to attain federal Clean Air Act objectives. It should be noted that our industry understands it is very likely that we will be targeted again to replace this equipment if incentive funding does not encourage voluntary actions to comply with the federal Clean Air Act caps on emissions that are realized through the adoption of District control measures. 34-1

Additionally, we commend the District for addressing federal sources of emissions whereas the California business owners of trucks and operations are not the only entities principally required to make emissions reductions to comply with the federal Clean Air Act. Federal government should do its' fair share to reduce emissions which can be achieved by incentivizing and regulating sources they 34-2

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are accountable for under federal law. The robust and vibrant economy of California and the District endure unique impacts due to the requirements of the Clean Air Act's continually decreasing emissions targets. Accordingly, CalCIMA appreciates the District requesting that the federal government do its' fair share in this AQMP.

CalCIMA also recognizes the partnership between the District, the region, the state, the federal government, and other stakeholders to ensure that requisite levels of funding are appropriately secured. In respect to this partnership, CalCIMA supports the District's proposal of the following actions:

- At the National Level:
  - Creation of a National Clean Air Investment and Cleanup Fund; and
  - Development of new partnerships with states and regions currently in nonattainment of existing federal air quality standards or may be in nonattainment of future air quality standards.
- At the State Level:
  - Prioritize existing funding programs to maximize the co-benefits of criteria pollutant and greenhouse gas emission reductions; and
  - Initiating new funding programs.
- At the Regional / Local Level:
  - Local ballot measures;
  - Identification of potential new sources of funding opportunities at all levels of government; and
  - Reinvigorating the District's Strategic Alliance Initiative.

34-2 Con't

Pursuant to Appendix IV-A – SCAQMD's Stationary and Mobile Sources Control Measures, posted below are CalCIMA's comments for the District's review and consideration.

CMB-01	Transition to Zero and Near-Zero Emission Technologies for Stationary Sources

Description: This proposed control measure would seek emissions reductions of NOx and VOCs from traditional combustion sources by replacement of existing equipment with zero and near-zero emission technologies via facility modernization efforts inclusive of increasing renewable fuels for power and transportation sources. Modernization can include lower emission, less toxic alternative technologies, processes, and materials along with increasing energy efficiency. Equipment that would be addressed includes non-power plant combustion sources such as engines, turbines, and boilers that generate power for electricity for distributed generation, facility power, process heating, and/or steam production, and other sources that include industrial and commercial facilities operating natural gas, diesel and liquid petroleum gas (LPG) stationary and emergency engines, as well as NOx point sources from the service/commercial and manufacturing/industrial sectors.

34-3

Comment: As the District notes, cleaner emissions technology options may not have affordable upfront costs. Whereas, the installation and use of these cleaner and more efficient choices may need

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to be incentivized, and when possible, combined with existing credit based programs to provide additional sources of revenue. CalCIMA is in accordance with the District's proposal to incentivize the impacted industry with the methods outlined below:

- Loans and grants;
- Permitting and fee incentives pursuant to expansion of the existing equipment certification program and pre-approved permit program to include additional equipment categories;
- Reduced permitting fee programs for other advanced technologies;
- The mechanism of credit offsets and New Source Review incentives including expansion of the number of exemptions under Rule 1304 – Exemptions and expanding the use of the priority reserve under Rule 1309.1 – Priority Reserve, in addition this mechanism includes the adoption of a Clean Air Investment Fund and potential short-term leasing of offset credits;
- CEQA incentives such as expedited District review;
- Branding incentives that recognize businesses or equipment that reach a superior level of air quality excellence; and
- Recordkeeping and reporting incentives can reduce the recordkeeping and reporting requirements for specific zero and near-zero emission technologies.

34-3 Con't

MCS-01	Improved Breakdown Procedures and Process Re-Design

Description: This proposed control measure relates to District Rule 430 'Breakdown Provisions' and applies to breakdowns that result in a violation of any rule or permit conditions, and encompasses reporting requirements pursuant to malfunctions of continuous emissions monitoring systems (CEMS), continuous fuel gas monitoring system (CFGMS), or other equivalent monitoring systems. The rule provides relief from violations from breakdowns that are not caused by operator error, neglect, improper operation, or maintenance procedures. The period covered under this relief is limited to a maximum of 24 hours from the time the owner or operator knew or reasonably should have known of the breakdown, or to the end of the operating cycle. The operator is required to submit a written follow-up report, and District staff promptly investigates the site to determine whether the occurrence meets all District criteria to qualify as a breakdown.

34-4

Currently, Rule 430 is not approved for inclusion in the State Implementation Plan (SIP) because it does not meet U.S. EPA's policy for startups, shutdowns, and malfunctions (SSM). U.S. EPA's May 2015 final action on SSM stipulates that exemptions from excess emissions during periods of breakdown are not allowed. A piece of equipment may experience a breakdown repeatedly and still comply under Rule 430, but each breakdown event may have associated excess emissions, which have no cap or incidence limit under the current rule. U.S. EPA is currently addressing rule-specific breakdown provisions on a rule-by-rule basis when they are considered for SIP approval. The District states this control measure would introduce improved breakdown procedures and/or process re-designs that would apply to breakdowns from all emission sources, providing pollutant concentration and/or incidence limits to comply with U.S. EPA's SSM policy.

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Comment: U.S. EPA standards already address excess emissions outside of normal operation which may be the determining reason there are no SIP-creditable reductions from this control measure. Accordingly, CalCIMA is recommending the District retain Rule 430 in its' current design to reflect U.S. EPA standards. Breakdowns do not occur intentionally, and equipment is already required to be maintained in accordance with manufacturer guidelines as detailed in correlating District permits. Additional rulemaking related to Rule 430 may only result in the additional cost of resources in lieu of emissions reductions. However, if the District still plans to modify Rule 430 to further develop breakdown procedures and/or process re-designs within the AQMP, CalCIMA would like to receive a better understanding of specifically what the language would state in relation to pollutant concentration limits that will be introduced that signify when a breakdown condition occurs. And, the combustion equipment this will apply to that may be required to be readily tested with a portable analyzer that may apply to combustion equipment such as boilers, engines, and some ovens and furnaces, along with associated control equipment such as Selective Catalytic Reduction (SCR). Additionally, if Rule 430 language is further developed by the District, it is suggested that sources / facilities that have maintained compliance for a specified amount of months be exempt from breakdown emission limits in order to encourage compliance by eliminating penalties for truly accidental upset conditions.

34-4 Con't

FLX-02	Stationary Source VOC Incentives

Description: This control measure is designed to incentivize lower polluting and less toxic alternative processes and materials for existing residential, commercial, and industrial modernization.

Comment: CalCIMA is in accordance with the District that using an incentives-based approach will encourage businesses to make choices that will reduce emissions while minimizing cost impacts. An incentive-based approach is also consistent with business retention efforts, particularly in regards to replacing older higher-emitting equipment or material with new lower-emitting equipment or material.

34-5

EGM-01	Emission Reductions from New Development and Redevelopment Projects

Description: This control measure aims to mitigate and, where appropriate, reduce emissions from new development and redevelopment projects and is designed to reduce emissions related to new residential, commercial, industrial and institutional development, including redevelopment. These types of projects are considered indirect sources. An indirect source is defined as any facility, building, structure, or installation, or combination thereof, which generates or attracts mobile source activity that results in emissions of any pollutant (or precursor) for which there is a State Ambient Air Quality Standard.

34-6

California Health and Safety Code (H&SC) Section 40716 states that "a District may adopt and implement regulations to reduce or mitigate emissions from indirect and areawide sources of air pollution." As an example, a 1993 California Attorney General opinion states that "a District's regulations may require the developer of an indirect source to submit the plans to the District for

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review and comment prior to the issuance of a permit for construction by a city or county. A District may also require the owner of an indirect source to adopt reasonable post-construction measures to mitigate particular indirect effects of the facility's operation [as a stationary source]. Such regulations could be enforced through and action for civil penalties…" (Cal. Attorney General Opinion 92-519.) While other types of indirect source measures could be developed, the same attorney general's opinion concluded that the District may not impose a permitting system upon indirect sources per se, given the primacy of local land use control. H&SC Section 40716 also states that "nothing in the section constitutes an infringement on the existing authority of counties and cities to plan or control land use, and nothing in the section provides or transfers new authority over such land use to a district" when an air district adopts and implements regulations to reduce or mitigate emissions from indirect and areawide sources of air pollution or encourage or require the use of measures that reduce the number or length of vehicle trips.The District will consider whether a rule similar to SJVAPCD Rule 9510 or other mechanisms that will result in mitigating or help to mitigate and potentially further reduce emissions associated with new development or redevelopment projects should be implemented.

34-6 Con't

Comment: CalCIMA would like to be included in the work group that was established as part of the 2007 AQMP that will reconvene pursuant to this control measure to explore potential actions and innovative approaches to mitigate and potentially reduce emissions from new or redevelopment projects.

MOB-07	Accelerated Penetration of Partial Zero-Emission and Zero-Emission Light-Heavy and Medium-Heavy-Duty Vehicles

Description: This proposed control measure intends to seek greater emission reduction benefits through the early deployment of near-zero, partial zero-emission, and zero-emission light-heavy- and medium-heavy-duty vehicles with gross vehicle weight ratings (GVWR) from 8,501 lbs to 33,000 lbs through implementation of electric hybrid vehicles via the continuation of the State hybrid truck and bus voucher incentive project (HVIP).

34-7 Con't

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

MOB-08	Accelerated Retirement of Older On-Road Heavy-Duty Vehicles

Description: This proposed control measure seeks additional emission reductions from existing heavy heavy-duty vehicles with gross vehicle weight ratings (GVWR) greater than 33,000 lbs. Specifically while the California Air Resources Board's Truck and Bus regulation will ultimately require a majority of the heavy-duty trucks to meet 2010 heavy-duty exhaust emission standards by 2023, there is a need to deploy on-road heavy-duty trucks that have engines that are considered "near-zero" or have "zero-emission mile" capability. For the purposes of this control measure, "near-zero" is defined

34-8

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as 0.02 g/bhp-hr NOx emissions. Both voluntary incentive funding and non-monetary incentive programs would be implemented.

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

34-8 Con't

MOB-09	On-Road Mobile Source Emission Reduction Credit Generation Program

Description: This control measure would develop a mechanism to incentivize the early deployment of zero and near-zero emission trucks through the generation of mobile source emission reduction credits that can be used by other entities for compliance with other District rules. The mobile source emission reduction credits will be discounted to provide additional emission reductions to help meet air quality standards.

34-9

Comment: CalCIMA supports this program to create an on-road, mobile source emission reduction credit generation program that would encourage early deployment of zero and near-zero emission trucks.

MOB-10	Extension of the SOON Provision for Construction / Industrial Equipment

Description: This control measure aims to promote faster turnover of older in-use construction and industrial diesel engines by extending the current Surplus Off-Road Opt-In for NOx (SOON) Program beyond 2023 to 2031 with a minimum allocation of $10 million.

34-10

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

MOB-13	Off-Road Mobile Source Emission Reduction Credit Generation Program

Description: This control measure aims to develop mechanisms to incentivize the early deployment of zero- and near-zero emission off-road mobile equipment where applicable or the early deployment of Tier 4 or cleaner combustion equipment where applicable through the generation of mobile source emission reduction credits that can be used by other entities for compliance with District rules where such crediting is allowed. The mobile source emission reduction credits will be discounted to provide additional emission reductions to help meet air quality standards. This measure would amend Rule 1620 to provide greater flexibility for entities to initiate projects to accelerate the deployment of zero- and near-zero emission off-road mobile equipment. For the purposes of this measure, a near-zero emission engine is one that is certified to be at least 90 percent cleaner than the current Tier 4 off-road emission standard for the horsepower specification of the off-road engine or meets the lowest optional NOx emission standard for on-road heavy-duty engines if the on-road engine is used in an off-road application.

34-11

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Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality. However, to better understand the emissions standards pursuant to near zero engines, we are requesting clarification of the precise standards that would result from engines being certified to be 90 percent cleaner than current Tier 4 off-road emission standards. We would also recommend an incentive program be designed to support manufacturers with the research, development, and certification of zero and near-zero emission equipment. 34-11 Con't

MOB-14	Emission Reductions from Incentive Programs

Description: This control measure aims to implement a rule similar to SJVAPCD's Rule 9610 'State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs' in order to have emissions reductions generated through incentive programs credited in State Implementation Plan (SIP) emission inventories. 34-12

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

BCM-03	Further Emissions Reductions from Paved Road Dust Sources

Description: The District states that particulate emissions occur whenever vehicles travel over a paved surface such as a road or parking lot through the re-suspension of loose material. Paved road dust emissions have been found to vary with what is termed the "silt loading" present on the road surface. Silt loading is more specifically defined as the mass of silt-sized material (> 75 micrometers in diameter) per unit area of the travel surface. Sources affecting silt loading generally include: 1) pavement wear and decomposition; 2) vehicle-related deposition; 3) dust fall; 4) litter; 5) mud and soil carryout from unpaved areas; 6) erosion from adjacent areas; 7) spills; 8) biological debris; 9) ice control compounds; 10) recent precipitation history; and 11) recent road sweeping/cleaning history. Because of the importance of silt loadings to emissions, paved road dust control techniques attempt to either prevent material from being deposited on the surface (preventative controls) or remove material deposited on travel lanes (mitigative controls). Examples of preventative control include covering of haul trucks or paving of access areas to construction sites. Street sweeping is an example of a mitigative control. In general, preventative controls are usually more cost-effective than mitigative controls to reduce paved road dust PM emissions. 34-13

The District's existing Rule 1157 'PM10 Emission Reductions from Aggregate and Related Operations' requires access improvements which are intended to reduce the amount of material tracked out from a facility onto surrounding paved public roads. The District's existing Rule 403 'Fugitive Dust' requires access improvements for sites greater than five acres and all material tracked out from applicable sources must be removed at the conclusion of the work day or at any time it extends more than 25 feet out from a site.

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This proposed control method would impact Rules 1157 and 403 requirements to reduce track out from stationary sources (e.g. aggregate facilities, construction sites, etc.) by specifying the most effective track out prevention measures, such as use of a wheel washing system, for sites with high vehicular activity exiting the site, or those with repeated track-out violations. The District states that the design of a wheel washing system will vary greatly depending on site-specific characteristics and anticipated traffic levels. Basic wheel washer system costs for a site with 100 trucks exiting a day have been estimated to range from $55,000 to $63,000 (approximately $12,500 for installation) and operational costs will vary with local utility rates. Wheel washing systems can also be leased for approximately $3,000 per month with one time installation/removal, including transportation, costs estimated at approximately $14,000. Operational and maintenance costs will depend on site-specific conditions. Street sweeping costs vary greatly based on number of miles and frequencies and whether the work is conducted with in-house or contracted resources. One local jurisdiction estimated twice monthly contract sweeping costs at $25 per curb mile.

34-13 Con't

Comment: CalCIMA will postpone providing expansive comments on this proposed control measure until the District releases the associated cost-effectiveness numbers pursuant to compliance. In relation to cost-effectiveness, we suggest that treatment of the water implemented in equipment be included in related calculations. Additionally, it should be noted that if the quantity of wheel washing facilities significantly increases in the District it may have an impact of water usage in correlation with the drought which does not have a foreseeable end at this point in time. This is to say that conservation of water should be at the forefront of any policy constructed in order to achieve a balanced environmental approach.

BCM-06	Emissions Reductions from Abrasive Blasting Operations

Description: This control measure addresses abrasive blasting as it relates to cleaning, preparing, or texturizing of the surface of a material such as metal or masonry by forcibly propelling a stream of abrasive material against the surface. The District states that sand is the most widely used blasting abrasive material and other abrasive materials can include slag, steel or iron shot/grit, garnet or walnut shells, and that abrasive blasting operations are done in both confined and unconfined conditions. The District's current permit conditions for abrasive blasting in confined (cabinet/machine/room) conditions require venting to a PM air pollution control (APC) equipment when in full use. Baghouses or dry filters are the most frequently used APC equipment. For open and portable blasting operations, venting to APC equipment is not required unless abrasives contain a carcinogenic toxic material. This control measure proposes voluntary applications of the following methods of control by providing incentives, primarily focusing on dry abrasive blasting operations conducted in open areas using portable blasting equipment with or without a permit. Blasting enclosures and dust collection methods include:

34-14

- A portable blasting enclosure/booth can be installed at the outdoor job site with a dust collection system. The portable enclosure for outdoor blasting can be used to further reduce emissions even when abrasives used do not contain any known carcinogenic toxic material.

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The blasting emissions can then be vented to PM APC equipment with a combination of filters installed. If abrasives contain a known carcinogenic material, a manufacturer-certified HEPA filter can be used in the APC equipment for additional control;

- The outdoor workspace may be walled off with permanent or temporary construction barriers while maintaining a negative pressure environment; and
- Pressure conditions can be monitored to ensure proper pressure is maintained so that blasting dust would not escape out of the enclosed workspace. Portable or fixed differential pressure monitors may be considered to continuously monitor and assist in the maintenance of pressure condition.

34-14 Con't

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

BCM-07	Emissions from Stone Grinding, Cutting, and Polishing Operations

Description: This control measure addresses PM emissions from stone fabrication such as grinding, cutting, drilling, scarifying, polishing, carving, and etching generates significant amounts of dust emissions containing PM10, some PM2.5, and silica particles which are known to cause lung diseases or silicosis. The control method proposes financial incentives be made available to exchange existing dry/wet equipment with new equipment that includes integrated add-on controls.

34-15

Comment: CalCIMA is encouraged to support the District's proposal to continue implementation of this incentive programs to assist with funding the accelerated deployment of cleaner equipment that improve our basin's air quality.

CalCIMA respectfully asks the District to consider our comments. Please contact me with any questions or concerns at (951) 941-7981 or at sseivright@calcima.org.

Sincerely,

Suzanne Seivright
Director of Local Governmental Affairs

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Responses to Comment Letter from California Construction and Industrial Materials Association (CalCIMA) (Comment Letter #34)

Response to Comment 34-1:

Staff appreciates your participation in the AQMP development process and support for the incentive programs.

Response to Comment 34-2:

Staff appreciates the support for the partnership for emission reductions from the federal, state and local level. In addition, staff agrees that funding would also need to be provided from a federal, state and local level.

Response to Comment 34-3:

The incentive methods provided by the commenter are supported by staff which agrees that value could be gleaned from non-financial incentives such as expedited permit review or flexibility in recordkeeping requirements.

Response to Comment 34-4:

The commenter recognizes the current challenges with the U.S. EPA policy compared to the existing Rule 430, but if and when amendments are considered for SCAQMD Rule 430, a full public process will take place. The stakeholders and interested parties can participate in the rule amendment process, including discussions of possible exemptions.

Response to Comment 34-5:

Staff appreciates the commenter's support for stationary source VOC incentives.

Response to Comment 34-6:

Staff encourages stakeholders and interested parties, including the commenter, to participate in the working group meetings during the development of the facility-based measures that affect indirect sources of emissions.

Response to Comment 34-7:

Incentive measures can be very effective in accelerating the deployment of cleaner vehicles and equipment and staff appreciates the commenter's support for the incentive programs.

Response to Comment 34-8:

Please see Response to Comment 34-7 regarding the continued implementation of incentive programs for MOB-08.

Response to Comment 34-9:

Credit generation programs can also be very effective in incentivizing the transition to cleaner technologies and staff appreciates the commenter's support for the credit generation programs.

Response to Comment 34-10:

Please see Response to Comment 34-7 regarding the continued implementation of incentive programs for MOB-10.

Response to Comment 34-11:

Staff appreciates the commenter's support for the incentive and credit generation programs, and the clarification regarding affected equipment will be further vetted as these programs are developed. Staff encourages participation from the commenter during the development of these programs.

Response to Comment 34-12:

Staff appreciates the support for incentive programs to implement MOB-14.

Response to Comment 34-13:

Cost-effectiveness estimates and water demand impacts will be provided if rule development is proposed for this source category. SCAQMD staff agrees on the importance of water conservation in all potential control programs.

Response to Comment 34-14:

Staff appreciates the support for incentive programs for BCM-06.

Response to Comment 34-15:

Staff appreciates the support for incentive programs for BCM-07.

Comment Letter from California Council for Environmental and Economic Balance (Comment Letter #35)

California Council for Environmental and Economic Balance
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August 19, 2016

Michael Krause
Planning and Rules Manager
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

RE: Draft 2016 Air Quality Management Plan

Dear Mr. Krause:

We are pleased to submit the following comments on behalf of the California Council for Environmental and Economic Balance ("CCEEB"). CCEEB is a non-profit, non-partisan association of business, labor, and public leaders, which advances balanced policies for a strong economy and a healthy environment. CCEEB represents major mobile and stationary sources across California and is an active stakeholder at the South Coast Air Quality Management District ("SCAQMD").

CCEEB supports the general approach to the Draft Air Quality Management Plan ("AQMP"), which relies on a comprehensive mix of regulations and incentives to achieve numerous federal ozone and PM2.5 standard beginning as early as 2019 and up to 2031. The preponderance of these reductions will be achieved through direct regulations of sources, totaling 68 percent of NOx reductions by 2023, and 80 percent of NOx reductions by 2031 (from 2012 base year). However, because mobile sources account for 88 percent of all NOx emissions in the South Coast—and given the stringency of existing on-road and off-road tailpipe and engine standards, as well as stationary source regulations—aggressive incentive programs are needed to accelerate fleet and equipment turnover. To fully achieve the needed deployment of clean technologies for mobile sources in the South Coast, the SCAQMD and ARB staffs estimate that it will require about $1 billion per year of incentive funding for the next 14 years. The total cost to deploy these clean technologies is almost $40 billion through 2031. 35-1

As a general principle, CCEEB believes that staff should only submit to ARB those measures for which there are quantifiable emission reductions. This would not preclude the District from pursuing other measures within its authority; however, such measures should not become federally enforceable under the SIP. 35-2

Need Strong Partnerships to Develop Funding Plan and SIP-creditable Incentives

CCEEB places the highest priority on incentive programs that satisfy federal Clean Air Act ("CAA") emission reduction requirements and, as such, are SIP creditable. We appreciate discussion of CAA requirements in the proposed AQMP, as well as the agency's commitment to developing a viable and comprehensive funding plan. CCEEB believes that the SCAQMD should build strong partnerships with public stakeholders, the California Air Resources Board ("ARB") and U.S. EPA in this endeavor, both as a means to solicit creative and effective ideas, as well as a way to build broad-based political support and consensus. For example, CCEEB recommends that the District work with ARB to secure a portion of the money from the VW settlement to help fund the incentive measures proposed in the AQMP. It's important to consider, too, that not all incentives involve direct funding; and public partners may be best in tune with what will drive effective and innovative penetration of clean technologies.

35-3

California and the SCAQMD Must Maximize Emission Reductions Across All Incentive Programs

CCEEB acknowledges that the AQMP is ambitious. Achieving the aggressive technological transformation outlined in the plan, and in the short timeframe needed to meet federal air quality standards, will take a tremendous amount of political will, capital investment, and cross-sector support. To be credible, the District, along with ARB, must demonstrate its commitment to maximizing funding support for emission reductions across all investment programs, including the Greenhouse Gas Reduction Fund. This could involve sustained advocacy at the Legislature and the Governor's Office to ensure that spending priorities are aligned with NOx and PM2.5 control measures contained in the AQMP. While public investments can and should provide multiple benefits, the health benefits stemming from attainment of air quality standards must take priority. Public funds and the private capital they are meant to leverage are inherently limited; the District must show that it can prudently administer its fiscal resources and prioritize scarce public funds in order to demonstrate that the incentive-based regulatory strategy laid out in the proposed AQMP is both feasible and worthy of support. The District must work with the State that must be willing to lead with its own dollars to act as a catalyst for private investment.

35-4

Below, please find our comments to specific control measures.

CMB-01 Transition to Zero and Near-Zero Emission Technologies for Stationary Sources

This proposed control measure would seek emission reductions of NOx and VOCs from traditional combustion sources by replacement with zero and near-zero emission technologies.

While CCEEB understands the overall intent of this measure, we have numerous questions about many of the details it contains. For example, we believe clarity is needed to distinguish between the Zero and Near-Zero Technologies Implementation Schedule and the Facility Modernization methods of control.

We also have questions about some of the inventories used in the measure. For example, we note that Table 1 on page IV-A-50 shows NOx emissions for stationary ICEs at 22.5 tpd, yet the total fuel combustion in the 2012 Summer Planning Emissions inventory listed in Appendix 3 is 29.18 tons per day of NOx, and this includes emissions from RECLAIM sources. Clearly, there is a need to work through these numbers and ensure inventory accuracy.

35-5

Page IV-A-51 states, "Based on this analysis, staff assumes that approximately 6,300 diesel ICEs can be replaces with Tier IV engines and 110 non-diesel ICEs can be replaced by powering with electrical energy, fuel cells, or backup battery storage units. The diesel replacements are considered a short term reduction (2023) while the majority of the non-diesel ICEs are considered a long term reduction target (2031) as it is anticipated the cost will decrease and market acceptance will increase for fuel cells and/or backup battery storage units."

CCEEB is currently working with the ARB on this issue. While great progress is being made, we do not believe that there will be a sufficient supply of Tier IV engines to meet the 2023 demand. Further, we have significant concerns that non-diesel ICEs will be available in sufficient quantities to meet the 2031 demand. We believe that any target dates/years identified in the AQMP for ICEs should be aligned with the phase-out dates that CARB is identifying in the proposed rulemaking revisions to the PERP and ATCM regulations, slated to be finalized and adopted in 2017.

CMB-02 Emission Reductions from Commercial and Residential Space and Water Heating
CMB-04 Emission Reductions from Restaurant Burners and Residential Cooking
ECC-03 Additional Enhancements in Reducing Existing Residential Building Energy Use

These three measures will regulate many sources that have not previously been subject to District rules or part of an emissions reduction strategy. Moreover, these businesses, many of them small and medium-sized enterprises, will account for 75 percent of estimated compliance costs for all Stationary Source Measures, with each of the three measures costing approximately $100 million per year.

35-6

CCEEB supports staff's efforts to look at these source categories. In doing so, we ask that the District work closely with affected businesses and their representatives. For example, under CMB-04 that targets restaurant equipment, the District should work closely with the North American Association of Food Equipment Manufacturers (NAFEM) and the commercial food service industry.

CMB-03 Emission Reductions from Non-Refinery Flares

The purpose of this control measure would be to seek reductions of NOx and VOC from gas handling at non-refinery sources. CCEEB supports encouraging facilities to look for ways to reduce flaring, but due to the nature of flares and operational constraints, particularly from wastewater treatment plants and landfills, it is essential that this measure remain as an incentive. Furthermore, CCEEB encourages the District to find and encourage beneficial uses of waste gas, including pipeline injection.

35-7

CMB-05 Further NOx Reductions from RECLAIM Assessment

In this control measure, staff identifies a series of approaches that can be explored to make the program more effective in ensuring equivalency with command and control regulations implementing BARCT, and to potentially generate further NOx emission reductions at RECLAIM facilities.

CCEEB has significant concerns with inclusion of a control strategy with an assigned reduction for the RECLAIM program. We believe that there are too many unknowns at this time to assign a reduction. The program went through a significant shave just last December. That action is now under review by the Air Resources Board. We do not know the outcome of that review, but it could change the dynamics for any future reductions from the program. The December amendments also provided an opt-out for power generators. While CCEEB supported this part of the proposal, we do not know

35-8

how many facilities will chose to use it and we do not know what effect that will have on the market or the universe of RECLAIM credits. There are other provisions that also add uncertainty to the program. Staff is currently developing a provision to address credits from facilities that have shut down. Again, we do not know the impact that this will have on the market. Finally, the December amendments included a floor price for credits. This too brings with it some level of market uncertainty. Given these uncertainties, we do not believe it is appropriate for this control measure to have an assigned reduction to the plan. Rather, the AQMP should list the emission reductions from this measure as "TBD".

35-8 Con't

CTS-01 Further Emission Reductions from Coatings, Solvents, Adhesives, and Sealants

This proposed control measure seeks VOC emission reductions by focusing on select coating, adhesive, solvent, and sealant categories by further limiting the allowable VOC content in formulations or incentivizing the use of super-compliant technologies.

A portion of the proposed method of control is stated to be an additional tightening of regulatory exemptions that may be used as "loopholes" to avoid the required use of compliant products. CCEEB agrees that "loopholes" are not appropriate and should be addressed. However, we are also aware of situations that require a regulatory exemption. Many of the rules in Regulation 11 contain exemptions for valid reasons. Prior to proposing the elimination of an exemption, CCEEB strongly encourages staff to work with all stakeholders to ensure that an appropriate substitute product is readily available.

35-9

MCS–01 Improved Breakdown Procedures and Process Re-Design

The purpose of this control measure is to revise the current breakdown procedures in Rule 430 resulting in a process re-design that would apply to breakdowns from all emission sources. In that there are no SIP-creditable emission reductions associated with this control measure, CCEEB does not believe it is appropriate to include MCS-01 in the AQMP. As CCEEB has previously stated in testimony to the Board, we would support an amendment to Rule 430 outside the AQMP process that adds language to say, "Nothing in this action precludes citizen suits or EPA enforcement." CCEEB also believes that there are other alternatives that could also address EPA's policy for Shutdown, Start-Up and Malfunctions (SSM). As MCS-01 proposes only one option, the inclusion of breakdown associated emission limits into existing source specific rules for resolution of the SSM issue, CCEEB is further concerned that inclusion of MCS-01 in the AQMP would limit consideration of these other possible strategies.

35-10

MOB-01 Emission Reductions at Commercial Marine Ports;
MOB-02 Emission Reductions at Rail Yards and Intermodal Facilities;
MOB-03 Emission Reductions at Warehouse Distribution Centers; and
MOB-04 Emission Reductions at Commercial Airports

The AQMP proposes four "Facility-Based" Mobile Source Measures that reference facility based targets. CCEEB requests that all references to facility-based targets be removed. Both the District and CARB have acknowledged that the growth management and indirect source control measures are not necessary to meet the requirements of the Clean Air Act. There is no emission reduction target for these control measures in the draft AQMP. These control measures seek to reduce emissions from on- and off-road sources. These emission sources are within the exclusive purview of CARB and EPA, which already have rules and regulations to significantly reduce NOx emissions. According to the draft 2016 AQMP, the effect of the rules and regulations are significant, showing reductions of over 67 percent in NOx emissions and close to 60 percent in VOC emissions between 2012 and 2023, even with increases in fleet population. Additional mobile source emission reductions will come from new measures that achieve turnover of older vehicles with replacement by the cleanest vehicles and equipment currently available and increased penetration of commercially available near-zero and zero-emission technologies through incentives programs. 35-11

Additionally, such rules would likely have a chilling effect on business development as they could lead to increased VMT, costs, and emissions should facilities choose to site outside of the area because of these measures.

MOB-07 Accelerated Penetration of Partial Zero-Emission and Zero-Emission Light-Heavy- and Medium-Duty Vehicles and
MOB-08 Accelerated Retirement of Older On-Road Heavy-Duty Vehicles

MOB-07 seeks additional emissions reductions through the continuation of the State Hybrid Truck and Bus Voucher Incentive Program (HVIP).

MOB-08 seeks additional emission reductions from on-road heavy-duty vehicles beyond the emissions reductions targeted in ARB's Truck and Bus Regulation. 35-12

CCEEB recognizes that these sources are a very significant component necessary to achieve the needed emission reductions to meet the basin's clean air requirements. We generally support the approach used in these measures, as both cost effective and able to show early benefits. However, we would like to see language added to ensure that these measures take a fuel neutral approach to transportation pathways. MOB-07

places priority on the early introduction of electric hybrid vehicles and zero-emission medium-heavy duty vehicles. CCEEB urges consideration of near-zero vehicle options.

35-12
Con't

We would be pleased to meet with you and your colleagues to discuss our comments in more detail.

Thank you.

Sincerely,

William J. Quinn
Chief Operating Officer

cc: Mr. Wayne Nastri, SCAQMD Acting Executive Officer
Dr. Philip Fine, SCAQMD Deputy Executive Officer
Mr. Gerald Secundy, CCEEB President
Ms. Janet Whittick, CCEEB Policy and Communications Director
Mr. Jackson Gualco, CCEEB Consultant
Ms. Kendra Daijogo, CCEEB Consultant
Members, CCEEB's South Coast Air Project

Responses to Comment Letter from California Council for Environmental and Economic Balance (CCEEB) (Comment Letter #35)

Response to Comment 35-1:

Staff appreciates your participation in the AQMP development process and support for the general approach outlined in the Draft Plan.

Response to Comment 35-2:

Please see Response to Comment 7-5 regarding TBD measures that do not have quantifiable emission reductions yet.

Response to Comment 35-3:

Staff appreciates the comment. The VW settlement is identified as one of the potential funding opportunities in the proposed Financial Incentive Funding Action Plan. A draft Financial Incentive Funding Action Plan will be released for public comments and will serve as a companion document to the AQMP.

Response to Comment 35-4:

This will be included in the development of the Financial Incentive Funding Action Plan. Also, please see Response to Comment 35-3 regarding maximizing funding support. Staff agrees on the need to support measures to reduce NOx and PM2.5.

Response to Comment 35-5:

Staff has determined potential source categories for emission reduction for the incentive programs. Upon implementation and formation of a working group, new zero and near-zero emitting technologies could be identified as well as other sources for potential NOx reductions. Staff anticipates many facilities and stakeholders will come forth and participate in the incentive program development. Once a working group is established, staff will determine the most effective means for distribution of funds to achieve emission reductions. The priority will be towards zero emitting technologies wherever possible and near-zero emitting technologies, if there are no other alternatives. The timeline for reductions will largely depend on an analysis of where the most effective reductions can be achieved. Incentives are expected to help facilities and equipment owners change out equipment earlier towards zero and near-zero technology.

Using the total fuel combustion from the 2012 Summer Planning emissions inventory, staff feels that 6 tons per day (tpd) NOx emission reductions can be achieved through regulation and if facilities are incentivized towards zero and near-zero technologies.

Many options, other than Tier 4 ICEs, are available for diesel ICE replacements such as fuel cells, battery storage, or diesel ICE bi-fuel modifications. Diesel ICEs will have to at least meet Tier 4 standards to qualify as a replacement option; however, staff will prioritize ICEs that strive for zero and near-zero emissions. Staff will also consider regulatory requirements for facilities applying for new permits for backup diesel generators such that the facility will have to demonstrate why zero or near-zero emitting alternatives are not feasible prior to approving a new permit. Incentives can be applied to encourage the replacement of existing diesel backup generators to battery storage, in applications where longer-term back-up power is

not required, or may be used for new equipment at facilities that go above and beyond regulatory requirements to use zero and near-zero technologies that may not be cost-effective.

In regards to aligning the targeted reductions with the phase-out dates for CARB's Portable Equipment Registration Program (PERP) and Airborne Toxic Control Measure (ATCM) regulations, CMB-01 includes incentive measures designed to encourage early adoption of zero and near-zero technologies, before regulatory requirements are enforced. If staff waits to implement the measure until regulatory requirements are in place, emission reductions would not be additional and therefore do not qualify for an incentive. Engine operators will be encouraged to participate in incentive programs for zero and near-zero technology and become early adopters of these technologies before regulatory compliance deadlines.

Response to Comment 35-6:

SCAQMD does plan to work with affected businesses. Please note ECC-03 is for existing residential buildings and incentives based on the equipment purchase decision.

Response to Comment 35-7:

The District agrees with the commenter with regards to encouraging the beneficial use of waste gas from landfills and wastewater treatment plants, including pipeline injection. For these types of projects that employ zero or near-zero technology, including pipeline injection, incentive opportunities can be made available under CMB-01. Incentives for infrastructure and biogas cleanup would help these sources find beneficial uses with co-benefits for these waste streams. CMB-03, however, is a regulatory measure and would require emission reductions from non-refinery flares.

Response to Comment 35-8:

Reductions in the RECLAIM program are a result of periodic BARCT assessments that evaluate any new technology that can be applied cost effectively to existing sources. Potential technologies that were identified in the December 2015 amendments would have further matured and based on past amendments, the control measure's emission reduction target is not unreasonable. One approach under serious consideration is an orderly sunsetting of the RECLAIM program which would involve a long-term transition to a command-and-control regulatory structure. The basis for staff's estimate of a potential NOx reduction of 5 tons per day is previous rulemakings, the long time period proposed to implement the reductions, and the margin between RTC's in the market and BARCT level emissions.

Response to Comment 35-9:

Staff acknowledges that there were valid reasons for the inclusion of exemptions in Regulation XI at the time of adoption. With changes and improvements in technologies, staff must re-evaluate the existing exemptions, especially when those exemptions are used as loopholes to circumvent rule requirements. Staff will work closely with stakeholders to determine if rule exemptions can be limited or removed.

Response to Comment 35-10:

Staff appreciates the commenter's concern with the inclusion of MCS-01 in the Plan, however, as the commenter is aware, U.S. EPA has expressed concerns with Rule 430, has not provided much guidance explaining a possible new policy, and there is litigation challenging the current policy. Thus, it is critical

that staff discloses the need to potentially amend existing Rule 430 pursuant to future direction from U.S. EPA. If and when amendments are considered for SCAQMD, Rule 430 a full public process will take place at which time the stakeholders and interested parties can participate in the rule amendment process, including other possible strategies or options to comply.

Response to Comment 35-11:

Please see Response to Comment 23-4 with regard to the facility-based measures to be implemented by the SCAQMD.

Response to Comment 35-12:

Additional language has been added to encourage the deployment of zero-emission technologies wherever feasible and near-zero emission technologies everywhere else.

Comment Letter from California Hydrogen Business Council (Comment Letter #36)

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August 19, 2016

Comments by California Hydrogen Business Council on SCAQMD's draft 2016 Air Quality Management Plan

Executive Director Jeff Serfass appreciated the opportunity to provide in-person comments on SCAQMD's Air Quality Management Plan (AQMP) at its Diamond Bar workshop on July 14th. The comments below expand on his verbal comments.

In the Plan's attention to distributed generation resources, it should be recognized that hydrogen and fuel cells used for stationary power and in microgrids can eliminate the need for some combustion energy facilities. Generation of fuel cell electric energy close to commercial and industrial loads, and even residential facilities, can provide the advantages of distributed resources without production of NO_Xs and other products of combustion turbines and engines. 36-1

The Plan places appropriate emphasis on the role of solar and wind resources. Hydrogen produced from intermittent, sometimes excess renewable energy can be a management tool that enhances a solar and wind strategy. Hydrogen produced from solar and wind, that is then used in power to gas strategies and directly as a transportation fuel, will help match the combination of loads and the renewable resources. We ask that SCAQMD work with the California ISO and others to plan to maximize the use of solar and wind resources with hydrogen as a keystone to the strategy. 36-2

Mobile source control strategies promoted by the California Air Resources Board don't explicitly mention hydrogen and fuel cell technologies which are well suited for now and in the future. For example, hydrogen can be employed in ports to create a full hydrogen economy there, serving the entire goods movement chain with an integrated systems approach.[1] Very importantly, this allows for the synergism of co-benefits that can also be applied to light duty vehicles throughout the basin with fuel infrastructure benefits. 36-3

The Plan states that renewable energy technologies must still be supplemented by fossil fuel generation due to the intermittency of renewable energy. This is simply not true. Energy storage, and in particular, bulk energy storage supplied by hydrogen strategies, can make a 100% renewable energy electric system possible. 36-4

In the Plan, energy storage is considered as an electron to electron system and fails to understand the role of power to gas and the opportunities for larger scale energy storage systems that can't easily be met by battery or other limited storage options. It is easy to conclude that hydrogen energy storage in an "electrons 36-5

[1] See "The Port of the Future: The Potential of Fuel Cells to Green Our Nation's Ports" at http://hfcarchive.org/wp-content/uploads/2012/02/Port-of-the-Future.pdf

to storage to electrons" strategy does not meet efficiency or cost objectives, but hydrogen energy storage strategies through power to gas and supply of hydrogen as a vehicle fuel can meet efficiency and cost goals, offering larger-scale, longer duration storage systems. At the Workshop, interest in power to gas information and data was expressed so attached to these comments is the CHBC White Paper on Hydrogen and Energy Storage and Power to Gas.

36-5 Con't

The Plan could benefit from asserting what the end game is, to provide certainty about where we really need to get to.

The AQMP should assert its role in ensuring that the hydrogen infrastructure is built faster, for support of a faster turnover from combustion engines to non-combustion fuel cell electric vehicles. The AQMP needs to work with industry to accelerate fleet turnover. The current regional and state plans do not necessarily reduce emissions as "expeditiously as practical" and needs to recognize the urgency for quicker action.

36-6

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About the California Hydrogen Business Council

The California Hydrogen Business Council is comprised of organizations and individuals involved in the business of hydrogen. Its mission is to advance the commercialization of hydrogen in transportation and stationary sources to reduce emissions and dependence on foreign oil. More information at www.californiahydrogen.org

CALIFORNIA HYDROGEN BUSINESS COUNCIL

Power-to-Gas: The Case for Hydrogen White Paper

INTRODUCTION

California is faced with an increasingly urgent need to deploy utility-scale energy storage solutions to support the integration of a rapidly expanding supply of intermittent renewable power generation resources. One promising approach to address this need is the use of hydrogen as an energy storage medium in an approach referred to as Power-to-Gas (or P2G). In this approach, hydrogen produced from electrical energy via electrolysis is used as an energy storage medium either directly or after further conversion to methane as the carrier. Electrolysis is a mature technology which converts electricity into hydrogen (and oxygen) by splitting water. Beyond the storage function of converting electricity to gaseous fuel for later use, these systems can cycle up and down rapidly providing additional grid support functions including voltage and frequency regulation and rapid ramping up or down as needed. This technology is currently being deployed in Europe and Canada but is only at the early demonstration phase in California and is not as widely known as other energy storage approaches such as batteries, pumped hydro and compressed air. This White Paper is intended to provide policy makers and other interested parties with an overview of the concept and its potential a cost-effective resource for fuel production and grid services.

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BACKGROUND

Countries around the world are investing heavily in renewable generation with wind and solar as the dominant technologies. Without large-scale storage of electrical energy, power grids cannot accommodate high levels of intermittent renewable resources because of mismatches in supply and demand which can result in periods of significant excess generation creating the need for bulk storage. Short-term, rapid fluctuation in power production from wind and solar also challenge the ability of the grid to respond creating the need for rapidly responding grid resources. This situation is predicted to become acute in California over the coming five years as solar production peaks near mid-day and declines rapidly just as demand peaks in the late afternoon and early evening creating a the need for rapid ramp up of replacement power. This need will become even more dramatic as California progresses toward its goal of 50% renewable power by 2030. A similar situation can exist with wind resources which can show high production in pre-dawn hours when demand is low. In periods when supply exceeds demand, excess wind power must be curtailed, which wastes a renewable resource. In such periods of excess, which can span minutes, hours or even days, large amounts of renewable electricity can be lost simply because the grid cannot accept the power.

Power-to-Gas (P2G) represents one potential tool for managing renewable power intermittency and over-generation. Simply described, P2G is the process of using electrolysis to split water into hydrogen and oxygen. Through this process, electrical energy is converted to chemical energy in the form of hydrogen. The hydrogen can then be transported through the natural gas grid via blending or further conversion to methane, transported by other means such as trucks, or used directly at the point of production. The stored chemical energy can be used to generate electricity via a fuel cell or other generation device, as a transportation fuel, or for any other purpose for which hydrogen or methane is used. The water consumption of the P2G process is small, with about 50 gallons of water required to convert 1 MWh of power into 20 kg of hydrogen. Put another way, all of the energy required to run a household could be stored by converting less than 1% of the indoor water it consumes.

The Power-to-Gas concept is illustrated in Figure 1 and Figure 2 shows the potential for rapid-response capability of P2G systems. An important distinction between P2G and other forms of energy storage is that P2G allows conversion of energy amongst a variety of sectors and end-uses (e.g., electric grid, gas grid, transportation fuel) and takes advantage of the natural gas grid as an existing and inexpensive storage resource to augment, and in some instances replace, dedicated hydrogen storage infrastructure. Defining grid electricity storage to include conversion and later use in non-electrical forms of energy is critical to achieving emissions and climate goals in a least-cost, best-fit manner. Constraining storage solutions to "electricity-in, electricity-out" only will increase the cost of intermittency.

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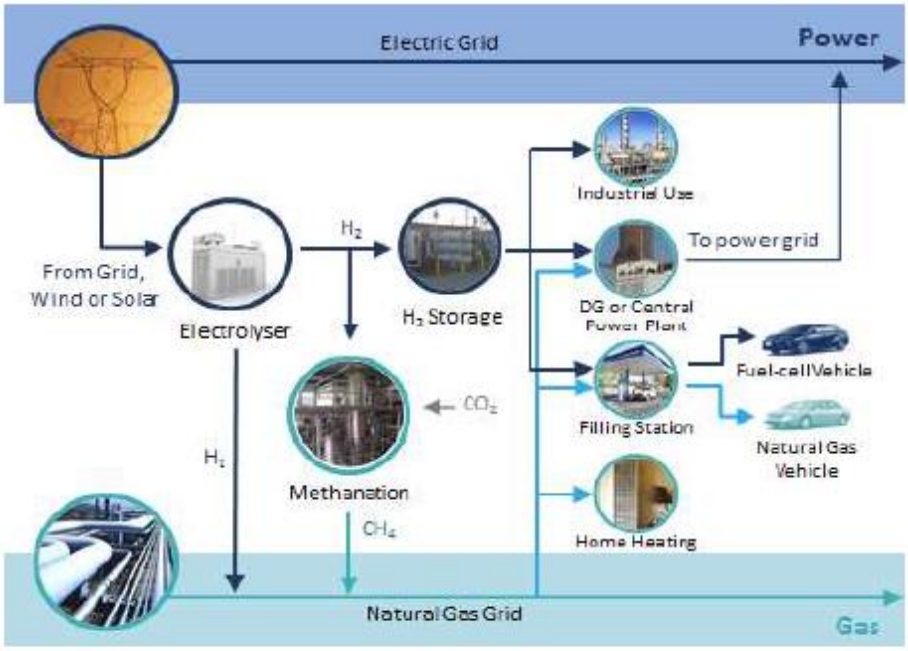

Figure 1 – Power-to-Gas Concept

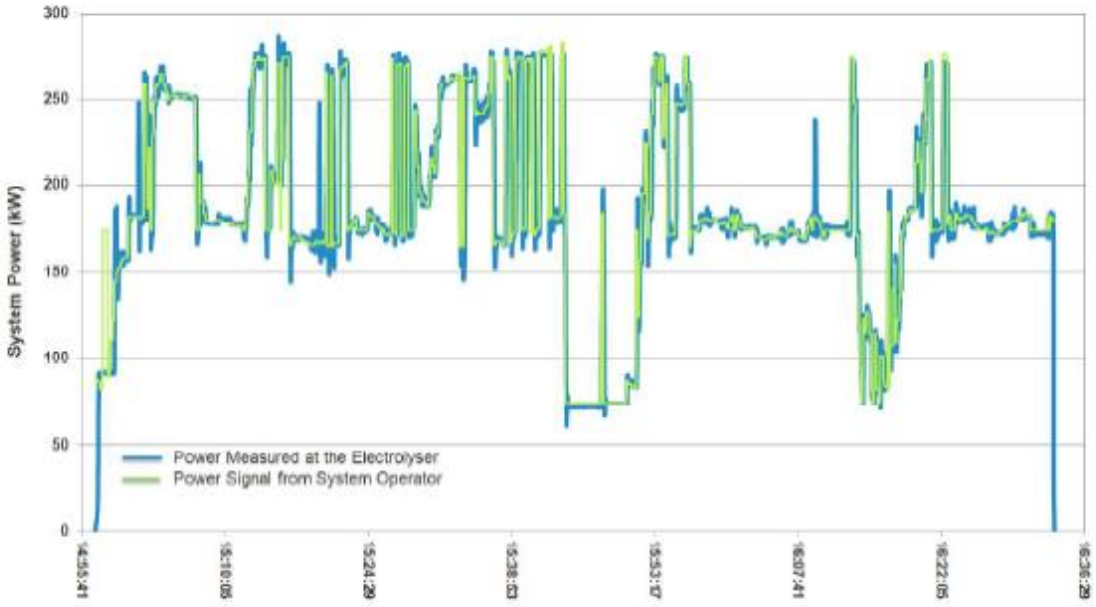

Figure 2 – Electrolyzer Sub-second Load Following Capability

THE NEED FOR GRID-SCALE ENERGY STORAGE

The need for grid-scale energy storage to manage renewable energy intermittency and over-generation is evident in Europe, where large deployments of renewable power resources often produce excess power that out-strips demand. For example, between 2011 and 2012, 'constraint payments' to wind farms by National Grid were over ten percent of the total amount paid to all generators, which totalled around $55 million.[1] The value of the balancing services market in the UK for 2014/15 rose to more than $1.7billion. In some areas of Germany, 30% of the wind production is curtailed.[2]

Closer to home, Texas and Washington have faced their own renewable energy challenges. In Texas, renewable power over-generation and transmission capacity constraints resulted in negative energy prices in 2011–2013.[3] In Washington, Bonneville Power Administration paid wind farmers nearly $3 million over several months in 2012 to curtail their power deliveries.[4]

The California Independent System Operator (CAISO) forecasts similar challenges for the California grid. Shown in Figure 3, the now famous "Duck Curve[5]" (this refers to the shape of the CAISO net load (grid supplied power) plotted against time of day)

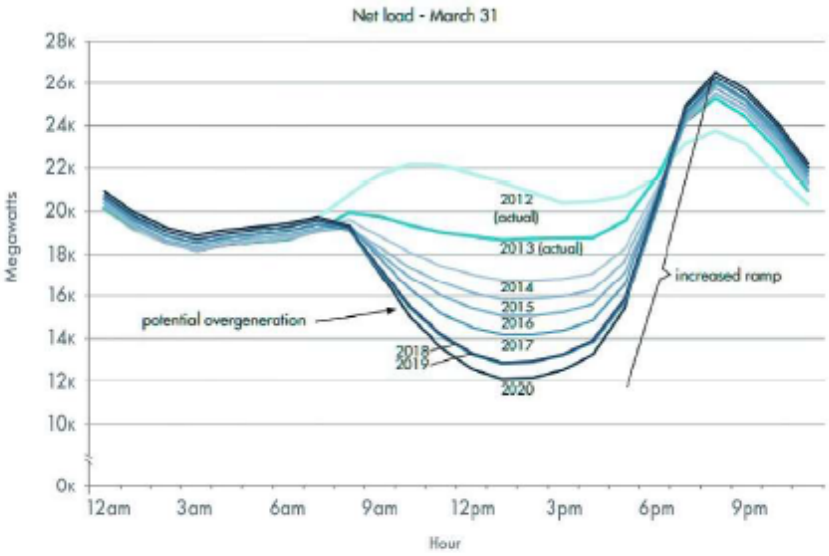

Figure 3 – "The Duck Curve" -- Net Load Curve
Source: DEMAND RESPONSE AND ENERGY EFFICIENCY ROADMAP, CAISO, 2013

[1] http://instituteforenergyresearch.org/analysis/uk-pays-millions-to-wind-farms-not-to-generate-electricity-while-scotland-fells-trees-to-build-more-wind-farms/#_edn3
[2] Presentation by Dr. Alexander Vogel, Gas to Power Conference, Cologne, Germany, November 2012
[3] http://www.eia.gov/todayinenergy/detail.cfm?id=16831
[4] http://washingtonstatewire.com/blog/too-much-windpower-rivers-surged-this-summer-and-oversupply-cost-2-7-million/
[5] This curve is the net load served by the California Independent System Operator and it reflects the reduced load in the middle part of the day created by increasing amounts of self-generated solar energy. Surplus results when the system supply exceeds demand, at which point "must run" resource must be curtailed to protect the system.

could lead to annual surplus renewable energy of up to 12,000 GWh (nearly 10% of renewable production) under a 50% renewables scenario.[6] In addition, the rapid decline of solar production in the later afternoon and evening will also lead to the need for rapid ramping of replacement resources, which will add cost to the grid and also pose technical challenges for both the electric and natural gas grids. Storage will be a technical necessity if California is to reach its goals for renewable electricity.

The Duck Curve clearly shows the need for load shifting over periods of four to twelve hours. In addition, at high penetration levels of solar and wind resources, not only daily, but also seasonal variations in resource level will require storage resources over longer time periods. Power-to-Gas is uniquely suited to these long-duration storage needs.

While battery costs go up in proportion to the quantity of energy stored (duration), P2G cost is nearly independent of the quantity of energy stored when the existing gas grid is used as the storage medium as illustrated in Figure 4. Although future costs are subject to uncertainty, the cases assessed here reflect a cross-over in efficiency-adjusted capital cost with lithium-ion battery costs at a storage duration of between 12 hours and 35 hours of storage capacity. The case labelled "Dedicated Fuel Cell" assumes that a fuel cell is part of the system cost to reconvert storage energy to electricity. The "Existing Generation" case assumes that the gaseous fuel produced by the P2G system is transported over the natural gas system and used in an existing generation resource.

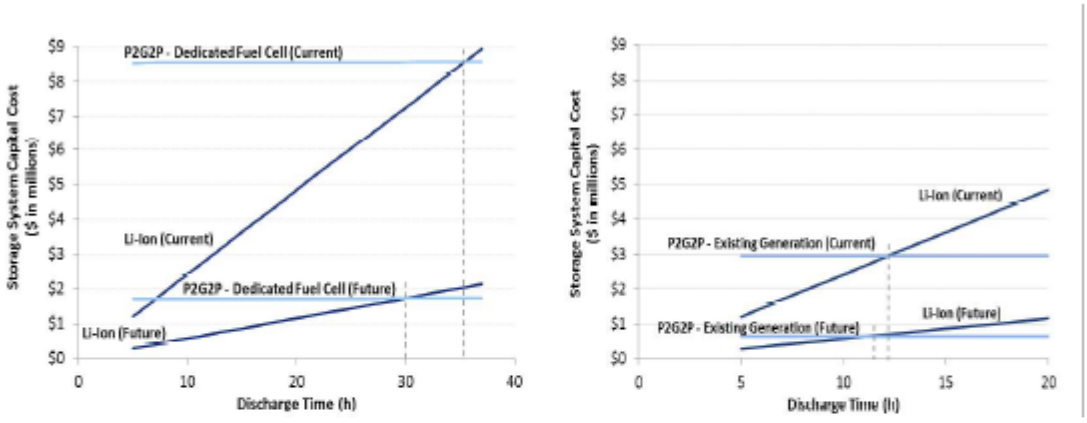

Figure 4 – Capital Cost versus Storage Duration for 1 MW (output) Battery and P2G2P Systems

[6] https://www.ethree.com/documents/California_Utility_Brief_E3_Study_Final.pdf

THE POWER-TO-GAS GRID-SCALE ENERGY STORAGE SOLUTION

Power-to-Gas represents a viable and potentially low-cost approach to large-scale energy storage, and electrolyzers can also serve other grid functions such as rapid demand or supply response, spinning reserve, and frequency and voltage regulation. As shown in Figure 5 below, P2G is a technology that can be similar in scale to pumped hydro and compressed air but is much more modular and flexible in siting and can utilize the vast storage capacity of the existing natural gas grid. As an example, over 130 billion cubic feet of natural gas storage capacity exists in Southern California. To put this in perspective, this is enough to supply all of the gas-fired generation in the region for more than two months.

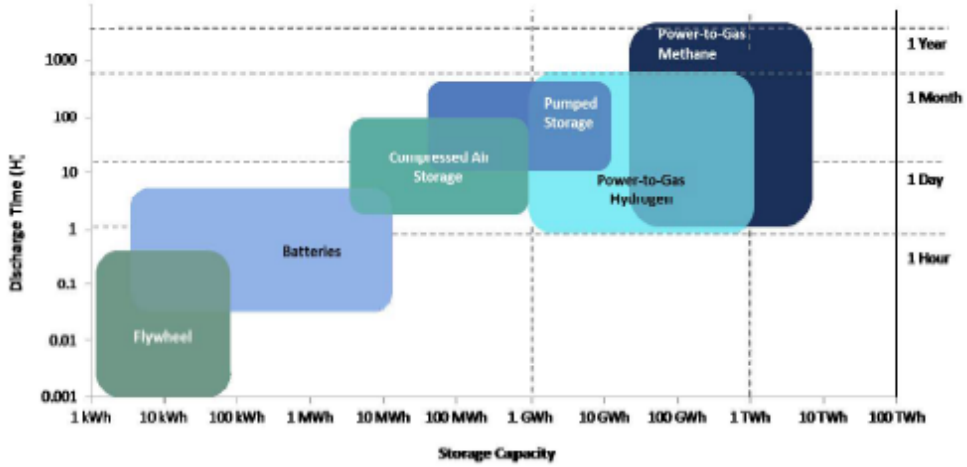

Figure 5 – Storage Technologies and Power / Energy Characteristics (After Fraunhofer ISE, 2015)

As discussed, P2G has the unique feature of converting electrical energy into chemical energy in the form of hydrogen or methane. This expands the range of storage use cases to include use as a vehicle fuel for fuel cell or natural gas vehicles. Today, vehicle fuel carries a substantially higher value than electricity on an energy-equivalent basis. Like other energy storage technologies that are especially amenable to bulk energy storage (e.g., pumped hydro, compressed air), the incremental cost of increasing storage capacity is low. This feature enables lower cost bulk energy storage of the type and duration (e.g., daily, seasonal) that will be required for mitigating renewable power curtailment.[7]

Other key attributes of P2G energy storage include its modularity to support sub-megawatt to multi-megawatt deployment, siting flexibility (due to footprint, zero or near-zero emissions and

[7] Maton, Zhao and Brouwer, International Journal of Hydrogen Energy, Volume 38, pp. 7867-7880, 2013

low noise), sub-second response times, minimal adverse environmental impacts, the use of the existing massive gas pipeline infrastructure and technical maturity. Because of these features, P2G is being actively pursued as a storage solution around the globe. This includes megawatt-scale installations in Europe[8] and Canada[9].

Various government agencies have also begun to recognize the merits of P2G:

- An industry panel advising the European Union's hydrogen research program said in 2011, "hydrogen has the potential of storing virtually unlimited amounts of renewable energy to be converted back into the grid by stationary fuel cells with high efficiency and quick response times, enabling incorporation of large amounts of intermittent solar and wind power into the grid as base load."[10]

- The UK's Department of Energy and Climate Change (DECC) "2050 Pathways Analysis" indicates that energy storage using hydrogen is a critical area.[11] Sandia National Laboratories concluded in 2011 that "Hydrogen energy storage is an ideal match for renewables of all scales, especially large-scale wind."[12]

- The National Renewable Energy Laboratory has examined the potential of storing large amounts of hydrogen in the natural gas pipeline system, and developed a lifecycle cost analysis of hydrogen versus other technologies for electrical energy storage demonstrating positive benefit to cost ratios under a variety of scenarios.[13]

- A recent report on energy storage funded by the European Commission Fuel Cell and Hydrogen Joint Undertaking identifies a major role for hydrogen energy storage if Europe is to meet its 2050 carbon goals. The report identifies the potential need in Europe for several hundred GW of electrolyzer capacity to serve energy storage needs, with up to 170 GW in Germany alone. It states that the use of electrolytic hydrogen in the gas grid, transportation or industrial sectors can productively utilize nearly all excess renewable energy.[14]

[8] http://www.iea.org/media/workshops/2014/hydrogenroadmap/13hydrogenicsrobertharvey.pdf
[9] http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/ontario-picks-contenders-for-wind-solar-energy-storage/article19901932/
[10] https://www.sintef.no/upload/Materialer_kjemi/kurs_konferanser/symposium-Water-electrolysis-and-hydrogen-as-a-part-of-the-future-renewable-energy-system.pdf
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[14] http://www.fch-ju.eu/sites/default/files/4-FCH%20JU%20-%20NL%20Panel%205%20%20Energy%20Storage%20study%20%28ID%201356957%29%20%28ID%201375431%29%20%28ID%201375739%29.pdf

UTILIZING NATURAL GAS PIPELINE SYSTEMS

HYDROGEN INJECTION AND BLENDING

The existing natural gas pipeline system provides an existing and ubiquitous network that could potentially be used for delivering hydrogen in the form of a hydrogen-natural-gas blend. The hydrogen/natural gas mixture can then be delivered to end use systems for use with or without separation. Natural gas pipelines are widespread and highly interconnected throughout North America, while being well monitored, maintained, and regulated.

Because the physical and chemical properties of hydrogen are different from natural gas, the permissible hydrogen fraction is limited. Research studies have suggested that volume fractions of up to 20% could be tolerated, although the highest current limit in Europe is 12% (Holland) with most standards below 5%.[15] The gas grid in Hawaii currently delivers gas containing 10% hydrogen.[16] Research and analysis is in progress by various entities in the U.S. to determine appropriate blending limits. A test and evaluation project on this topic is currently in progress at the University of California, Irvine.

METHANATION

Another method of utilizing the natural gas pipeline system is to methanize the hydrogen prior to injecting it by combining the hydrogen with carbon dioxide, from waste sources for example, to create methane. The resultant renewable methane (assuming 100% renewable electricity as the energy source) is interchangeable with conventional natural gas and can be stored and transported over the natural gas system and used without restriction. Very large amounts of over-generation from renewables could be accommodated via methanation, which opens the possibility of synergistically de-carbonizing both the electricity and natural gas grids.

POWER-TO-GAS ECONOMIC ANALYSIS

The economics of Power-to-Gas depend upon the ultimate use of the hydrogen and the type and amount of grid services provided and, like other technologies in early deployment, upon further reduction in system costs as designs evolve, performance improves and manufacturing volumes increase. A variety of storage and related functions can be performed by electrolyzers depending upon the system configuration and the value of the various functions performed.

[15] http://www.nrel.gov/docs/fy13osti/51995.pdf
[16] Hydrogen Delivery Technical Team Roadmap, U.S. DRIVE Partnership, 2013.

Relative to storage functionality, there are two broad categories of systems: those that return power to the grid (Power-to-Gas-to-Power) and those that store and use electrical energy in the form of gaseous fuel (Power-to-Gas). Several grid services can be provided by electrolyzer systems. These include:

- Energy time shifting (arbitrage)
- Voltage and frequency regulation
- Ramping
- System Capacity
- Rapid Demand and Supply Response
- T&D investment deferral

Analysis of system cost effectiveness requires assessment of the value of various functions that can be performed by various system configurations and then optimization of the system dispatch over the time period being analyzed to achieve optimal economic dispatch. Such analyses are dependent upon the local power system and regional economics, so that these analyses must be done on a localized basis. Full-up modeling of the western U.S electricity grid under alternative deployment scenarios utilizing differing mixes for battery and P2G resources is being conducted by the National Renewable Energy Laboratory and the University of California, Irvine and initial results will be published later this year. Initial results from these analyses of energy conversion using electrolysis illustrate the potentially compelling business case for Power-to-Gas.

Figure 6 shows the cost of producing hydrogen and methane respectively under various prices for input electrical energy. Currently applicable time-of-use rates in Southern California are in the $0.07/kWh to $0.09/kWh range. However, new rate and market structures being developed by the California Independent System Operator (CAISO) and the electric utilities will make the effective cost of electricity significantly lower by providing rate offsets or revenue streams for a variety of grid functions. Depending upon location, additional revenue (or rate discounts) could be available for voltage and frequency support, as well as various types of investment deferral that will likely include alternative forms of energy storage. For the current discussion, these effects are captured though the range of input electricity prices of zero (free curtailed electricity) to $0.06/kWh (potential future off-peak rate).

The results of this analysis show that, based upon expected progress on technology cost, hydrogen and methane can be can be produced at costs comparable to conventional vehicle fuel. This is without consideration of any renewable fuel premium, which could be in the range of $2 per gasoline gallon equivalent in the 2030 time frame.[17] Alternatively, intermittent

[17] ICF International. http://www.caletc.com/wp-content/uploads/2014/04/ICF-Report-Final-2.pdf

renewable electricity could be converted to fuel, transported on the gas grid, and redelivered as fully dispatchable renewable electricity (via existing combined cycle or natural-gas-capable fuel cell generators) at less than $0.07/kWh. This is net of conversion losses (55% fuel-to-electricity efficiency and no charge for surplus electricity).

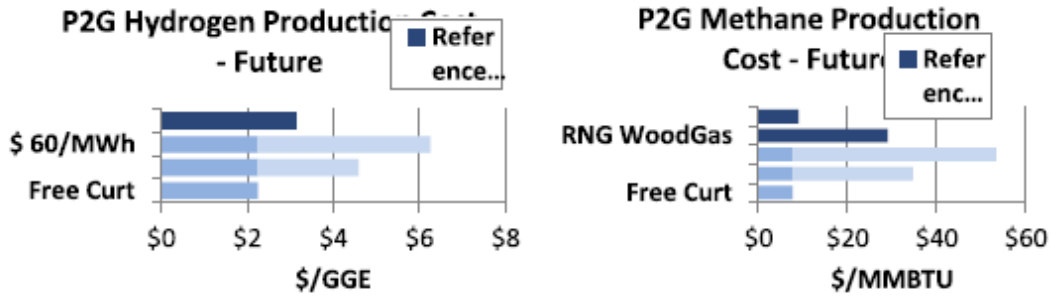


Figure 6 – Production Cost of Fuel via Power-to-Gas

As noted below, grid services provide potential additional revenue streams that can further enhance the value proposition for Power-to-Gas systems. Figure 7 illustrates the value of shifting electricity consumption to the least expensive time (arbitrage) and also from providing ancillary services to the grid operator. The analysis employs the assumptions used in the current DOE H2A model ("Future Central Hydrogen Production from PEM electrolysis v3.0" which features a base feedstock cost of $0.066/kWh).[18] The potential ancillary services provided include regulation, spinning reserve and non-spinning reserve. Electrolyzer behavior was calculated using an operations optimization model that maximizes revenues and minimizes operating expenses. The value of grid services can generally be expected to

Figure 7 – Potential Incremental Value of Electrolyzer Providing Grid Services

[18] http://www.hydrogen.energy.gov/h2a_production.html

increase at higher levels of renewables penetration.

POLICY AND REGULATORY ISSUES

There are a number of features of Power-to-Gas that differ from other storage technologies such as batteries, compressed air and pumped hydro. Most notably, the value of P2G is maximized when the use of stored energy can be either in the form of electricity or fuel. It will be important for market structures and tariffs to recognize this attribute. Although not the dominant scenario, there are other examples of mixed pathways that have been accepted by the California Public Utilities Commission (CPUC), such as use of electricity to make ice used for space cooling without reconversion. Compressed air could also be used for direct mechanical drive for example. Because innovation can be expected to produce more mixed-energy-mode storage scenarios, it is important to anticipate them in development of policy and regulation. Other rules and standards may need to be adapted as well, for example, modifying spinning reserve standards to accommodate rapid-response systems that do no employ rotating equipment.

In addition, like other developmental technologies, Power-to-Gas will require research, development and demonstration. Support from state and federal agencies will be critical to reducing cost and ensuring that the potential of P2G is reached. Currently, RD&D funding for battery technology is orders of magnitude greater than that for P2G. A robust P2G RD&D program should be a priority for the state of California.

SUMMARY

The case for using hydrogen and/or methane to store renewable energy is compelling for a number of important use cases. Power-to-Gas energy storage leverages an already existing storage infrastructure that has a vast amount of capacity, the natural gas grid, making P2G an excellent candidate for long-duration storage applications. It is unique because it is a multi-functional technology that serves use cases that support the electricity, transportation and heating sectors.

- Electrolysis is the only viable and commercially proven method of producing hydrogen from highly variable renewable electricity generation. Electrolyzers can provide a dynamic response to supply and load fluctuations – a critical factor in grid stabilization.
- Once produced, hydrogen can be used for high-value applications such as for clean transport fuel therefore turning electricity into a high value road fuel capable of extended range and rapid fueling characteristics.

- Hydrogen, or methane generated from hydrogen, can also be injected into the natural gas pipeline system providing a flexible method of storing renewable energy for all the traditional uses of natural gas.
- The use of widespread electrolysis in California will not adversely affect the drought situation as the water converted by the electrolyzers is modest in amount, can be reclaimed water, and can be recovered in some cycles such as when used in a fuel cell.
- The need (and opportunity) for bulk energy storage in California is potentially in the TWh range, given the developing "duck curve", the mandate for energy storage procurement and the state's goals to transition to non-petroleum vehicle fuels.
- The cost of fuel produced via Power-to-Gas is competitive with other pathways to produce renewable fuel and the cost competitiveness will increase as the need for (and value of) grid services increases.
- P2G can be cost effective for electricity storage if the cost of input electricity is low such as at times of surplus supply.
- The value proposition for P2G as grid storage is being developed along with other forms of energy storage, but important market-structure, regulatory and policy issues must be addressed in the near term to capture this value starting with increased awareness of the multiple facets and successful international deployment of P2G.

APPENDIX

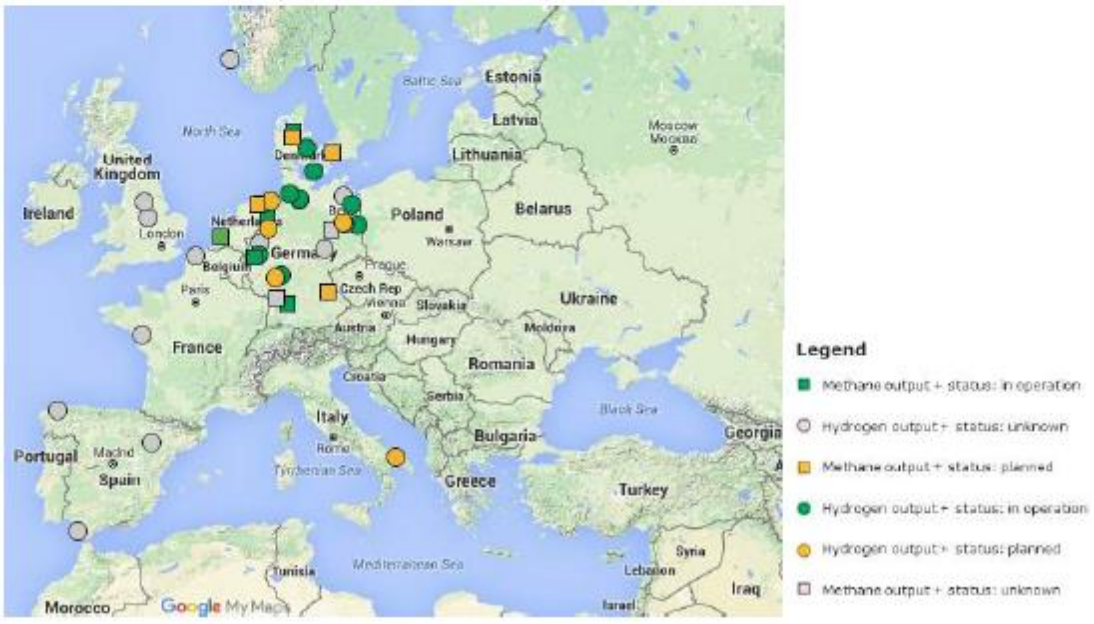
SUMMARY OF ANALYSIS ASSUMPTIONS

Primary Assumptions – P2G		
Electrolyzer Cost - Future	314.15 $/kW	DOE H2A Future Central Electrolysis Model v3.0 - Escalated to Year 2015 Dollars
Electrolyzer Cost - Current	478.3 $/kW	DOE H2A Current Central Electrolysis Model v3.0 - Escalated to Year 2015 Dollars
Fixed O&M Cost	25 $/kW-yr	Average of Source A from Alex - "A: Behnam Zakerin, Sanna Syri "Electrical energy storage systems: A comparative life cycle cost analysis", Renewable and Sustainable Energy Reviews, 2014/15.
Cost of Money	10%	
Regulation Service	38.5 $/MWh	"Ancillary Services: Technical and Commercial Insights" by Brendan Kirby, July 2007
Regulation Fraction	2% of Capacity	"Ancillary Services: Technical and Commercial Insights" by Brendan Kirby, July 2007
Spinning Reserve Service	8.4 $/MWh	"Ancillary Services: Technical and Commercial Insights" by Brendan Kirby, July 2007
Spinning Reserve Fraction	100% of Capacity	
Economic Life	15 years	
Dispensing and Delivery Capital Cost	1.4744 $/kg H2	DOE HDSAM for LA Area
Electrolyzer Efficiency	44.7 kWh/kg H2	DOE 2015 target

REPRESENTATIVE HYDROGEN ENERGY STORAGE USE CASES

Case	Description	Hours of storage	Power to electrolyzer	Power out	Benefits
1	Addressing the duck curve	8	0.5 to 1 MW	1 MW	Renewable firming, ramping, capacity, regulation, energy, reserves
2	Utilizing surplus renewables for fuel	(8)	1 MW	0	Regulation-up, curtailment charges, FCEV fuel sales
3	Integrated power and fueling	TBD	TBD	TBD	DG benefits, deferral, plus EV power and FCEV fuel
4	Investment deferral / peak shaving (substation)	4	1 MW	1 MW	T&D upgrade deferral, energy time shift, regulation, reserves
5	DG and Voltage / VAR support	8	1 MW	1 MVAR	VAR support, voltage support, peak shaving, reserves

POWER-TO-GAS PROJECTS IN EUROPE



Further information can be found at: http://www.europeanpowertogas.com/demonstrations

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White Paper published on October 8, 2015

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310-455-6095
info@californiahydrogen.org

Responses to Comment Letter from California Hydrogen Business Council (Comment Letter #36)

Response to Comment 36-1:

Staff recognizes the value of fuel cells as a possible option to reduce emissions in a variety of applications. The Draft Plan discusses fuel cell technology in a number of control measures found in Appendix IV-A of the Plan.

Response to Comment 36-2:

Chapter 10 has been updated to expand on both power to gas strategies and hydrogen as a transportation fuel.

Response to Comment 36-3:

For the revised draft, fuel cell technologies will be explicitly mentioned as a potential zero-emission technology.

Response to Comment 36-4:

Chapter 10 has been updated to expand the discussion on the need to supplement renewable energy. Please refer to the "Challenges and Opportunities in Moving Towards 100 Percent Renewable Power" section.

Response to Comment 36-5:

Chapter 10 has been updated to expand on both power to gas strategies and hydrogen as a transportation fuel.

Response to Comment 36-6:

Chapter 10 has been updated to expand on hydrogen infrastructure discussion. Staff acknowledges the receipt of the "Power-to-Gas: The Case for Hydrogen White Paper" document.

Comment Letter from California Trucking Association (Comment Letter #37)

August 19, 2016

South Coast Air Quality Management District
21865 Copley Dr
Diamond Bar, CA 91765

Submitted Electronically

Thank you for the opportunity to comment on the Initial Draft of the 2016 Air Quality Management Plan (AQMP). The California Trucking Association (CTA) is the nation's largest statewide trade association representing the trucking industry.

Trucking Will Meet and Exceed "Fair Share" Emission Reductions without "Further Deployment"

California's trucking industry is already subject to the most stringent emission regulations in the nation. In the past ten years, the California Air Resources Board (CARB) adopted a comprehensive suite of air quality rules which regulate nearly every facet of the in-use emissions from heavy-duty trucks. The industry spends approximately $1 billion annually in compliance costs for these rules, which include: 37-1

- Statewide Truck and Bus Rule
- Statewide Drayage Truck Regulation
- Transport Refrigeration Unit Air Toxic Control Measure
- Heavy Duty Tractor-Trailer Greenhouse Gas Reduction Measure
- Commercial Vehicle Idle Reduction Program
- Heavy Duty Vehicle Inspection Program
- Periodic Smoke Inspection Program

Increased California-only costs from State strategies to reduce the carbon intensity and price the carbon content of fuel such as the Low Carbon Fuel Standard (LCFS) and Cap and Trade will also cost the trucking industry somewhere between $500 million and $1 billion annually through 2020[1].

These existing regulations are estimated to by the Air Resources Board (ARB) achieve a 71% reduction in NOx from current levels.

[1] Assumes 3 billion gallons of diesel consumed annually 2016-2020. Conservatively estimate CO2 allowance price to remain at auction floor. Low costs in 2016 of $0.13/gallon increased cost from Cap and Trade and a $100/MTCO2 LCFS credit price. High Costs in 2020 of a $0.17/gallon increased cost from Cap and Trade and a $200/MTCO2 LCFS credit price.

Estimated Emissions from Medium/Heavy-Duty Trucks		
	Remaining NOx (tpd)	Reduction from Current Levels
Current Regulations	43	71%
Current and Proposed CARB Mobile Source Stategy	28	81%
Current, Proposed and CARB Further Deployment On-Road Heavy Duty	17	89%
Current, Proposed, and AQMP Incentives (Table 4-15)	8	95%

*Based on 2012 - 2031 Summer Planning Inventory for Class 2B – 8 Diesel Trucks.

Proposed, quantified measures in CARB's Mobile Source Strategy increase the reductions to **81%** without the anticipation of further deployment or development of cleaner technologies. As discussed throughout the AQMP Advisory Group process, each sector was anticipated to help achieve a "fair share" reduction goal of 80% from current levels. Trucking is forecasted to exceed this goal without further action beyond current regulations and proposed, quantified measures in the CARB Mobile Source Strategy.

Current and proposed on-road heavy duty measures account for the lion's share of reductions under CARB's Mobile Source Strategy.

37-1 Con't

South Coast NOx Reductions in CARB Mobile Source Draft Strategy (tpd)				
Measure Concepts by Source Category	70% Reduction 80ppb Standard (2023)	Percent of Total	80% Reduction 75ppb Standard (2031)	Percent of Total
On Road Light Duty				
Current Programs	47	87%	59	91%
Proposed Programs	0	0%	1	2%
Further Deployment	7	13%	5	8%
Total Category Reductions	**54**	**100%**	**65**	**100%**
Trucks and Buses (ORHD)				
Current Programs	97	72%	115	77%
Proposed Programs	3	2%	23	15%
Further Deployment	34	25%	11	7%
Total Category Reductions	**134**	**100%**	**149**	**100%**
Off-Road Federal and Int'l				
Current Programs	9	16%	15	23%
Proposed Programs	1	2%	12	18%
Further Deployment	48	83%	38	58%
Total Category Reductions	**58**	**100%**	**65**	**100%**
Other Off-Road				
Current Programs	23	61%	32	68%
Proposed Programs	1	3%	5	11%
Further Deployment	14	37%	10	21%
Total Category Reductions	**38**	**100%**	**47**	**100%**
Total Expected NOx Reductions	**284**		**326**	

CARB's Mobile Source Strategy also incorporated several measures for which they have not yet quantified (NYQ) emission reductions or cost, but plan to in the coming years. These NYQ measures include programs to lower in-use emissions and incorporating criteria pollutant benefits from the recently released Final Rule for the Second Phase of the Environmental Protection Agency (EPA) and National Highway Transportation Safety Administration's (NHTSA) Heavy-Duty Vehicles and Engines Greenhouse Gas and Fuel Efficiency Standards (Phase 2).

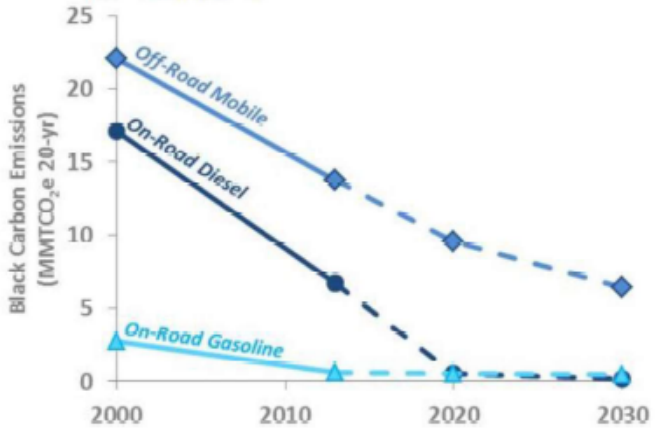
37-2

EPA/NHTSA anticipates that their Phase 2 rules will result in as much as a 10.2% reduction in downstream NOx by 2040[2]. Cost-effective programs to lower in-use emissions also hold great promise as emission control deterioration accounts for a large part of the total T6-T7 EMFAC vehicle category emissions.

In addition to progress on regional air quality, localized health risk from diesel PM has also been drastically cut. As of 2023, with very few exceptions, all heavy-duty trucks in the South Coast Air Basin will be equipped with particulate matter (PM) filters. CARB's own May 2015 evaluation of PM filters[3] found that "PM filters virtually eliminate PM from truck exhaust".

This is reflected in CARB's recent emissions inventory for black carbon[4], for which diesel PM is a close surrogate.

Figure 2. Black Carbon Emissions from On-Road and Off-Road Mobile Sources with Existing Measures.



37-3

[2] Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2 Regulatory Impact Analysis, Table 5-42

[3] http://www.arb.ca.gov/msprog/onrdiesel/documents/DPFEval.pdf

[4] http://www.arb.ca.gov/cc/shortlived/meetings/04112016/appendixa.pdf

This is further reflected in a comparison between today's assumed PM emissions and those used to characterize health risk from diesel PM just 16 years ago[56].

	PM2.5 Emission Factor (g/mile)	% Reduction
Diesel Risk Reduction Plan (Appendix VII)	0.670	
EMFAC2011 (2010+ zero-mile)	0.035	-94.8%
EMFAC2014 (2010+ zero-mile)	0.004	-99.4%

37-3 Con't

Serious Concerns with MOB 01-04 and MOB-08

We have serious concerns about the proposed control measures MOB-01 through 04 ("Facility Measures") and portions of MOB-8 ("Fleet Rules").

CTA is strongly opposed to the regulation of mobile sources such as trucks and transport refrigeration units via freight facility emission caps and performance targets. The proposed Facility Measures may leave the door open for the adoption of such regulations. These concepts would represent an unprecedented, and legally questionable, expansion of the SCAQMD's regulatory authority of the freight industry. Given the remarkable progress demonstrated to date, we do not believe such a draconian regulatory expansion is either appropriate or warranted at this time.

37-4

We are also concerned about any expansion of the AQMD's Fleet Rules to private trucking fleets. The extensive legal history on the Fleet Rules should make it clear that any such expansion would be a pointless and wasteful exercise which would tie up valuable resources that could otherwise go towards achieving real air quality progress.

Because of the limited authority the district has to regulate mobile sources, we would urge the AQMD to continue to work collaboratively with CARB, the EPA and the industry to further the progress towards zero and near-zero emission technologies.

There is ample history and evidence to show that this collaborative approach has and will continue to achieve significant air quality progress while continuing to balance economic concerns.

[5] http://www.arb.ca.gov/diesel/documents/rrpapp7.PDF
[6] http://www.arb.ca.gov/msei/msab_oct_workshop_10_07_2013_final.pdf

CTA Supports Targeted, Cost-Effective Incentives

The CTA will continue its work with State, Federal and Local stakeholders to bring about additional incentives to the South Coast Air Basin to further air quality progress. The CTA has strongly supported recent, successful bipartisan legislative efforts at the State level to reauthorize the Carl Moyer Program and set aside a portion of the Greenhouse Gas Reduction Fund for deployment of near-zero emission technologies.

The Initial Draft AQMP anticipates the potential of a $5.1 billion incentive program for Medium and Heavy Duty Trucks which would achieve another 20 tons per day by 2031 by replacing nearly 130,000 trucks to help implement the State's "Further Deployment" commitment. Because of the assumed grant amount of $35,000 - $50,000 per unit, the likely private sector investment necessary to realize such a program would likely increase the overall costs to somewhere closer to $10-15 billion. It is of note that such a program would actually far exceed CARB's committed tons under "Further Deployment" for the entire On-Road Heavy-Duty Sector. 37-5

A basic flaw in the way the analysis is framed in the Draft AQMP is using an assumption that 130,000 truck projects will in fact meet cost-effectiveness guidelines as set in the Carl Moyer Program. Because of the low NOx and PM emissions from 2010 and newer diesel engines, even assuming a replacement project vehicle achieves a 90% reduction at a new 0.02g/bhp-hr low NOx standard would make it difficult to reach traditional cost-effectiveness thresholds with a typical 3-5 year project life.

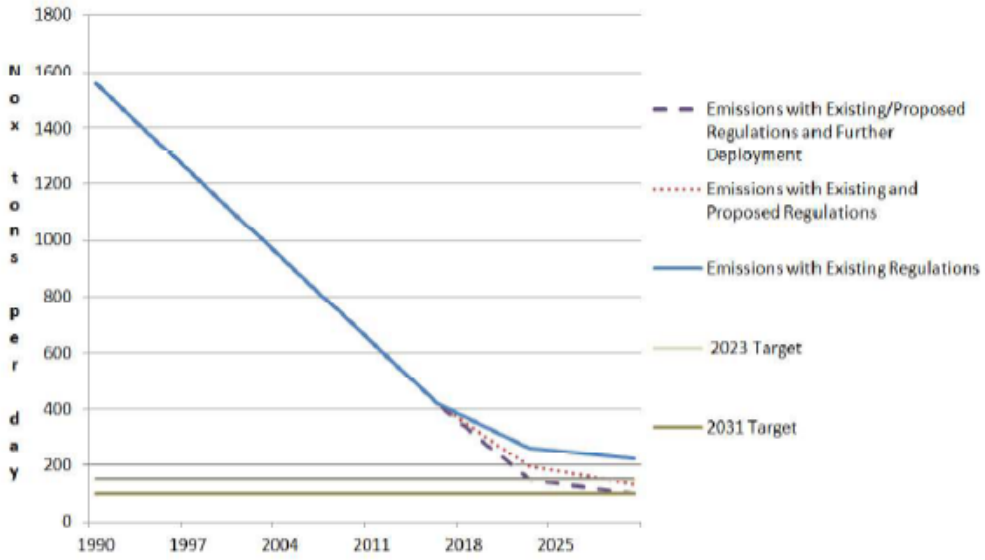
Future stakeholder discussions will need to explore issues of continued cost-effectiveness in a world of diminishing returns as emissions levels get further towards zero. SB513 (Beall-2015) allows adjustments to, specifically, Moyer cost-effectiveness thresholds through a public process. Such a discussion may be productive to further the case for additional public dollars to assure the public and policymakers that our emission control programs continue to be targeted at achieving the most cost-effective use of public and private investment.

AQMP Should Provide Additional Historical Context

While the current draft AQMP does provide useful historical context for policymakers regarding our remarkable air quality progress, it could better highlight certain historical data on NOx reductions to more simply frame the choices which are outlined in the draft plan. 37-6

For instance, while pages 1-6 through 1-10 of the draft plan demonstrate the progress made on ozone since 1990, because this is primarily a NOx focused plan we believe

reductions in NOx achieved by existing and proposed regulations and incentives since that same timeframe should be highlighted.[7]



37-6 Con't

For instance, implementing the estimated 33 ton per day improvement from the "further deployment" of technologies in 2031 would reduce an additional **2.1%** of NOx beyond what will be achieved by regulations and incentives already adopted and quantified using the same 1990 baseline as Figure 1-4. This is roughly equivalent to the average annual emission reduction achieved in a single year between 1990 and 2031.

[7] Historical NOx (1990 levels) from California Almanac of Emissions and Air Quality – 2009 Edition http://www.arb.ca.gov/aqd/almanac/almanac09/textfiles/table4_12.txt

Conclusion

Thank you for the opportunity to comment on the draft plan. If you have any questions, please feel free to contact Chris Shimoda at cshimoda@caltrux.org

Thank You,

Eric Sauer, Vice President of Policy and Government Relations
(916)373-3562

Responses to Comment Letter from California Trucking Association (CTA)
(Comment Letter #37)

Response to Comment 37-1:

The State Mobile Source Strategy includes a measure titled "Further Deployment of Cleaner Technologies" for on-road heavy-duty vehicles. The SCAQMD along with U.S. EPA are identified as implementing agencies under this measure. As such, the draft 2016 AQMP includes two measures MOB-07 and MOB-08 to seek additional emission reductions to help implement the "Further Deployment" measure. Staff recognizes that heavy-duty trucks have already achieved significant NOx reductions but believes additional reductions are needed wherever feasible, especially since some sectors, e.g. aircraft, may not be able to achieve as great a percent reduction.

Response to Comment 37-2:

Staff appreciates the comments regarding U.S. EPA's final Phase 2 rulemaking. The NOx emission reductions associated with the final rule are modest compared to the needed NOx reductions for the region to attain federal air quality standards. U.S. EPA notes this in the final rule. As such, U.S. EPA plans to initiate the development of more stringent engine emission standards for NOx, and has recently stated its intent to do so in response to SCAQMD's petition for rulemaking for a national ultra-low-NOx truck standard.

Response to Comment 37-3:

Compared to those from old diesel engines, today's diesel PM emissions are much lower and the associated health risk has been drastically cut. Nevertheless, the current health risk still dominates cancer risk in the Basin and thus, needs to be lowered to protect public health.

Response to Comment 37-4:

See Response to Comment 23-5 regarding facility emissions cap and performance targets.

While the SCAQMD staff prefers to work with industry stakeholders to identify actions that result in additional emission reductions, there may be a need to develop fleet rules within the SCAQMD's legal authority if such actions do not lead to additional emission reduction to help meet the State Mobile Source Strategy "Further Deployment" measures. Staff recognizes that fleet rules would need to receive a waiver from EPA if they were extended to private fleets.

Staff appreciates the comment and plans to work closely with CARB and U.S. EPA.

Response to Comment 37-5:

Staff appreciates the comment supporting incentives funding.

There are several scenarios analyzed to determine the incentive funding needed. Carl Moyer cost-effectiveness is one approach. The other is a per vehicle incentive, which could be much higher than the Moyer cost-effectiveness criteria. Staff believes that such funding levels are appropriate based on CARB's Technology Assessment for Low NOx Heavy-Duty Diesel Engines.

Response to Comment 37-6:

SCAQMD staff appreciates the comments regarding NOx emission reductions since the 1990's. However, as shown in the attachment demonstration, additional NOx emission reductions from on-road heavy-duty trucks along with NOx emission reductions from other stationary and mobile sources will be needed. Historically, significant NOx emission reductions have occurred from a smaller number of trucks and other equipment since their emissions on a per unit basis, were significantly higher than the emissions from current trucks. As such, a greater number of trucks will need to be turned over to achieve the 33 tons/day called for in the State SIP Strategy.

Comment Letter from the City of Irvine (Comment Letter #38)

Community Development Department
One Civic Center Plaza, P.O. Box 19575, Irvine, CA 92623-9575
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(949) 724-6000

August 18, 2016

Dr. Philip Fine
Deputy Executive Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 92765

Subject: City of Irvine Comments: June 2016 Draft of the 2016 Air Quality Management Plan

Dear Dr. Fine:

The City of Irvine appreciates the opportunity to provide comments on the June 2016 Draft of the 2016 Air Quality Management Plan (AQMP). The Draft 2016 AQMP is a monumental effort and the City of Irvine recognizes that the AQMP is critical to the region's ability to achieve federal air quality standards and healthful air.

The following general comments and recommendations are offered by the City of Irvine on the initial June 2016 Draft 2016 AQMP. The City of Irvine reserves the right to make further comments at a future date when the full impact of the proposed 2016 AQMP can be assessed:

38-1

1. Fragmented and Incomplete Document Release: The City of Irvine's review of this initial draft was conducted in the absence of critical, related documents which have yet to be released by the South Coast Air Quality Management District (SCAQMD). Documents not yet released include the Draft 2016 AQMP Program Environmental Impact Report (EIR) and the AQMP's Socioeconomic Analysis. The City of Irvine finds it extremely difficult to grasp and conduct a comprehensive review and comment of the Plan, when only certain elements of the Plan have been released.

   Due to the lack of a complete document, the City of Irvine respectfully submits at this time, preliminary higher-order comments that will hopefully assist in AQMD's preparation of a revised September 2016 Draft AQMP for review and comment. Please note that the City of Irvine reserves the right to make further refinements or revisions to these comments, in

addition to submitting additional and final comments, when all 2016 Draft AQMP documents are released in a coordinated and integrated review process.

The City of Irvine also reserves the right to make further comments at a future date when the full impact of the document can be analyzed, and further recommends that the SCAQMD consider releasing all elements of the Plan simultaneously along with the Draft Program EIR.

38-1 Con't

2. Action Plan for Incentive Strategies: The Draft 2016 AQMP contains a number of measures that are designed to be implemented through incentives to accelerate the penetration of zero- and near-zero emission technologies, and to further reduce emissions from other mobile and stationary control measures. The Draft 2016 AQMP also notes that as much as $14 billion in funding needs to be identified in order to implement "incentive strategies."

   It is the City of Irvine's understanding that the $14 billion in funding need represents the total funding need of all the agencies responsible for implementing the proposed measures. The City of Irvine recommends that the incentive funding need for each proposed measure be detailed in the 2016 AQMP Plan and Appendices, particularly Table IV-A-1 and Table IV-A-2 in Appendix IV-A, and that funding need by agency also be summarized and presented.

   The Draft 2016 AQMP should include an action plan that identifies the funding source for all incentive strategies. It should also include a discussion on the impact to local jurisdictions. For example, in regards to measures EEC-02 (Co-Benefits from Existing Residential and Commercial Building Energy Efficiency Measures (NOx and VOC) and EEC-03 (Additional Enhancements in Reducing Existing Residential Building Energy Use (NOx and VOC), there needs to be more details as to the recipient of the incentive and who will be required to complete the bookkeeping and monitoring.

38-2

3. EGM-01: Emission Reduction from New Development and Redevelopment Projects: The purpose of this measure is to mitigate and reduce emissions from new development and redevelopment projects. The description of EGM-01 is very broad and could be interpreted to add a new fee to new development or redevelopment in the SCAQMD service area, similar to Rule 9510 adopted by the San Joaquin Valley Air Pollution Control District.

38-3

As a local government, we have concerns about this prospective measure absent more information on how a development fee might impact local land use under our authority. To the extent that such a control measure would redistribute or constrain growth in the region, it could undermine the greenhouse gas (GHG) and pollutant emission reductions that are imbedded in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) that the City of Irvine worked diligently to complete with the Southern California Association of Governments. A fee might not be the best way to ensure that new structures accommodate clean technologies, and the AQMD should also explore other cost effective methods.

38-3 Con't

Because of its ambiguity and potential overlap with the RTP/SCS, this proposed measure should not be included among the AQMP's enforceable, committed measures. The City of Irvine recommends that the Orange County Council of Governments, the subregional agency for Orange County, be included in any South Coast AQMD Working Group that is established or reconvened on this measure, to allow for meaningful dialogue on this proposed measure. Further, if this measure proceeds to rule development in the future, the SCAQMD needs to assure that any proposed rule will integrate with, and enhance the California Environmental Quality Act (CEQA) process and not impede the project approval process in light of CEQA timelines.

4. Duplicative Measure: BCM-03: Further Emission Reduction from Paved Road Dust Sources: The AQMP proposes that measures BCM-03 would include a review of existing National Pollutant Discharge Elimination System (NPDES) mandates and that this is conducted in conjunction with any potential rulemaking efforts. NPDES permits are administered by the local regional water quality control boards. The SCAQMD does not have jurisdiction over the issuance and maintenance of mandates required of NPDES permits. The City of Irvine requests that the SCAQMD remove reference to NPDES mandate review as to not confuse jurisdictional and implementation issues related to these permits.

38-4

5. Unquantified Measures: There are a number of measures that have not been quantified in the Draft 2016 AQMP. These are often referred to as "to-be-determined" or "TBD" measures. Based upon the review of the initial Draft 2016 AQMP, it is the City of Irvine's understanding that the Plan is capable of achieving federal air quality standards in absence of any of the TBD measures. The City of Irvine raises a concern regarding whether it is appropriate to include these types of measures in the 2016 AQMP, since they do not advance attainment. Inclusion of TBD measures implies some level of commitment toward delivering those measures even

38-5

though it has not been determined how many emission reductions they can provide, or at what cost. An economic analysis cannot be performed without the quantified benefits. The City of Irvine is concerned that the inclusion of TBD measures in the AQMP could allow the District staff to substitute a TBD measure in place of other quantified and committed measures after the 2016 AQMP is approved. The City of Irvine understands that in the future, the TBD measures may prove to be more cost effective than other committed measures. This kind of transfer should not be implemented as an administrative change, and should only be pursued through an appropriate public process. Until the time that either a backstop measure is needed or a TBD measure is identified to be more cost effective than one of the currently qualified measures, the City of Irvine requests that the TBD measures either be removed from the plan, or clearly separated from the quantified measures, and called out as uncommitted measures that require further development and evaluation.

38-5
Con't

Furthermore, should the TBD measures remain in the AQMP, the City of Irvine requests that the 2016 AQMP include a discussion that clearly states the purpose for including these strategies and the process required to incorporate them. Preferably, this process would include action by the SCAQMD Governing Board and opportunities for public review and comment.

Thank you again for the opportunity to provide input on this initial Draft 2016 AQMP. We appreciate your consideration of the comments provided in this letter and we look forward to your responses. We hope that future releases of the Draft 2016 AQMP will be coordinated to include all appendices and supporting documents to ensure we all are afforded a comprehensive review. Please do not hesitate to contact me if you have any questions.

Sincerely,

Susan Emery
Director of Community Development

Responses to Comment Letter from the City of Irvine
(Comment Letter #38)

Response to Comment 38-1:

The release of the Draft AQMP in June 2016 was designed to allow the public to become familiar with the proposed strategy and provide comments to be included in a Revised Draft Plan. Release dates have been staggered for the Draft Program Environmental Impact Report (PEIR) and Socioeconomic Assessment in order for the supporting documents to analyze the latest version of the Plan. As such, the costs and benefits analysis was released August 31, 2016 and the PEIR was released mid-September in time for review of the Revised Draft Plan that was released early October. Similarly, Appendix V and VI did lag behind the release of the Draft Plan but were available by September and provided over 30 days to review and comment. All those comment periods overlapped to allow for a comprehensive, concurrent review by the public.

In addition, staff is providing a 60-day public review and comment period for the PEIR and while each of the draft Socioeconomic chapters have been given a 30-day public review and comment period, a complete updated Socioeconomic Assessment with appendices was released in November for another 30-day public review and comment period. Comments on the Revised Draft Plan were encouraged to be provided 30-days after its release so staff could incorporate changes into the Draft Final Plan scheduled to be released in early December.

Response to Comment 38-2:

The funding needs identified in the AQMP is based on meeting the emission reductions associated with the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures for light-duty vehicles, on-road heavy-duty vehicles, federal and international sources, and off-road equipment. Tables 4-17 to 4-21 show a breakdown of potential funding by these sectors.

The deployment of cleaner technologies will be implemented by CARB, U.S. EPA, and the SCAQMD to incentivize cleaner vehicle and equipment. However, the specific implemented agency may depend on the source of funds or other factors.

For ECC-02, no additional costs are anticipated beyond those that would otherwise be allocated to reduce GHG emissions through State programs. This measure seeks merely to quantify criteria pollutant reductions from these GHG programs. ECC-03 is for existing residential buildings in the Basin and incentives are based on equipment, not the agency.

A Financial Incentive Funding Action Plan is being prepared to identify potential sources of funding. The Financial Incentive Funding Action Plan will be a companion document to the AQMP.

Response to Comment 38-3:

Under state law, the SCAQMD is required to assess rules and regulations adopted by other air agencies to ensure that all feasible measures are provided in the AQMP. As such, staff will be taking comments on whether adoption of a rule similar to San Joaquin Rule 9510 is appropriate for the South Coast Air Basin or whether there are other actions/mechanisms to address potential emissions associated with new or redevelopment projects. In addition, the facility-based measures will be developed in a public process and will initially seek enforceable actions to achieve emissions reductions. Please see Response to

Comment 23-4 for details of the revised version of the facility-based measures in the Revised Draft Plan. Finally, staff encourages the Orange County Council of Governments to participate in the working group during the development of this measure.

Response to Comment 38-4:

Please see Response to Comment 6-2 with regard to NPDES requirements and clarification that staff did not intend the language to mean that SCAQMD would week to change NPDES permit requirements.

Response to Comment 38-5:

As mentioned in the Draft AQMP, the SCAQMD mobile source measures are proposed to help implement the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures. The SCAQMD is identified as an implementing agency along with CARB and U.S. EPA. As such, many of the SCAQMD mobile source measure do not have associated emission reductions since the reductions are provided in the State Strategy (see Appendix IV-B). Please see Response to Comment 7-5 for further discussion of TBD measures.

Comment Letter from the City of Mission Viejo (Comment Letter #39)

TRANSMITTED VIA EMAIL

August 19, 2016

Dr. Philip Fine
Deputy Executive Director
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 92765

SUBJECT: City of Mission Viejo Preliminary Comments:
South Coast Air Quality Management District
June 2016 Draft of the 2016 Air Quality Management Plan

Dear Dr. Fine:

The City of Mission Viejo appreciates the opportunity to review and comment on the June 2016 draft of the 2016 Air Quality Management Plan (AQMP). It is the City's understanding that comments received on the June 2016 AQMP (hereafter referred to as the Plan) will assist the South Coast Air Quality Management District (AQMD) in the development of a Revised Plan that will be released in September 2016. Accordingly, the comments presented below are higher-order comments and recommendations that the City of Mission Viejo respectfully submits for your consideration. The City of Mission Viejo further notes that an additional policy-level and a technical review and comment of the Plan will be conducted upon AQMD release of a September 2016 Revised Plan, when all related Plan documents are released and made available for a concurrent review, particularly the Draft Program Environmental Impact Report.

The City of Mission Viejo comments are as follows:

1. Fragmented Release of 2016 AQMP Documents for Public Review: 39-1
The June 2016 Draft Plan was released for review and comment in absence of critical appendices and related documents, including the Draft Program Environmental Impact Report and the draft Socioeconomic Assessment. This staggered release of Plan documents prevents reviewing agencies from conducting a comprehensive and concurrent review and comment of the Draft Plan across all related documents and appendices.

   Recommendation: The City of Mission Viejo respectfully recommends that when all Revised Plan documents are released, that a review period be established that allows for a minimum, 60-day concurrent review of all released documents, due to the complexity and technical nature of the Plan documents and to accommodate recognized holidays that may occur within the review period timeframe (Labor Day, Thanksgiving Holiday).

   Further, to allow for a streamlined review of the revised Plan documents, the City of Mission Viejo would welcome a red-line version of the Revised Plan, to enable the reader to easily grasp revisions that have been made to the Plan documents since the June 2016 draft.

2. Incentive-Based Measures to Reduce Emissions:
The June 2016 Draft Plan includes several, voluntary Incentive-Based measures in the Plan's portfolio of proposed strategies to reduce emissions to satisfy Clean Air Act standards. These voluntary, incentive-based measures include ECC-03: existing residential building energy usage; CMB-01: transition to zero and near-zero emission technologies for stationary sources; and, CMB-02: commercial and residential space and water-heating).

The City of Mission Viejo supports AQMD's consideration of an elective strategy approach to reduce emissions, and AQMD's recognition that incentive-based strategies can co-exist and supplement traditional command-and-control, rule adoption measures. The City of Mission Viejo further observes that the Plan quantifies the anticipated emissions reductions that could be achieved from each of the above-referenced measures, and the Plan identifies that the emissions reductions from voluntary, incentive-based measures "must be real, quantifiable, surplus, enforceable and permanent." [2016 Draft AQMP: Technical Appendix IV-A; page IV-A-12].

Recommendation: The Draft AQMP outlines a series of key elements that must be applied to the implementation of Voluntary Incentive Measures, in order for the emissions reductions to count towards the Clean Air Act emissions reductions. Such actions include AQMD's future development of guidelines for each of the voluntary measure that addresses the federal test for each measure to be real, quantifiable, surplus, enforceable and permanent, which the AQMP refers to as the Integrity Elements.

39-2

The City of Mission Viejo urges the South Coast AQMD to include and consult with local government representatives on Voluntary Incentive Measure implementation. This would include any Ad Hoc Working Groups, public outreach, and introductory briefing workshops tailored specifically to Voluntary Incentive Measure implementation. In particular, the City of Mission Viejo would welcome the opportunity for AQMD to overview and explain how current local government processes and permitting requirements may be impacted by implementation of any of the Voluntary Incentive Measures.

As example, some questions that warrant further explanation and clarification include the following:

a) If incentives are awarded for residential weatherization, appliance efficiency, and renewable energy sources (solar photovoltaic roofs) by retrofitting existing residential buildings, as proposed under Measure ECC-03, what is the process and impact to local jurisdiction building and permitting procedures? Also, would the proposed retrofit improvements also require a separate application or approval process through the South Coast AQMD?
b) How are the incentive monies for the improvements allocated? Is there a fair-share allocation by county and by city? Is there an application process that must be pursued? Further, does the application process prioritize applications from disadvantaged communities? The City of Mission Viejo is concerned that such an emphasis or priority for disadvantaged communities would result in many jurisdictions and applicants being ineligible for funding opportunities to conduct

energy-related retrofits, if there are no disadvantaged communities in the jurisdiction, such as in South Orange County.

c) Is a contract agreement necessary or required as part of the program requirements, as referenced in the Plan, and if so, who are the parties to the contract agreement?

d) Who is responsible for the requirements of record-keeping, tracking, reporting and monitoring of the retrofitted improvements? Would this be a new reporting process that would be established between the South Coast AQMD and local governments, perhaps similar to the annual AB2766 reporting requirements of local subvention funds?

e) Is there a prototype of the Voluntary Incentive Program implementation that can be made available, either as an Appendix or separate report to the 2016 Plan?

39-2 Con't

3. Proposed Measure EGM-01: Emission Reduction from New Development and Redevelopment Projects

The 2016 draft AQMP includes a proposed "Emission Growth Management Measure," referred to as EGM-01: Emissions Reduction from New Development and Redevelopment Projects. This measure is proposed for adoption in 2017, with an implementation period of 2018 – 2031, with South Coast AQMD as the Implementing Agency, and with anticipated Plan emissions reductions to be determined.

The prototype for this measure is a Rule 9510 that was adopted in December 2005 by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Rule 9510 requires both development projects of a certain scale, and transportation projects emitting a certain level of construction exhaust emissions, to be subject to the Rule. The Rule requires the project applicant to perform an emission generation analysis, from which the SJVAPCD calculates how much emissions must be reduced, and the project applicant must then achieve the required emissions reductions on-site (voluntarily) and/or through payment of an off-site mitigation fee. The City of Mission Viejo also understands that the 2016 Plan is required to include a consideration of this proposed measure, as State law requires AQMD to consider all feasible measures, including measures adopted by other air districts.

39-3

Recommendation:

a) Re-assess adoption and implementation dates for EGM-01 and reconvene an AQMD Working Group for EGM-01: The draft 2016 Plan identifies a 2017 adoption period for the proposed measures, with implementation beginning in 2018. There are many and significant questions on this proposed measure that warrants consultation and recommendations from affected stakeholders, including local government, the business community, and the development community. While the Plan recognizes that an AQMD Working Group was established to discuss a similar proposed measure in conjunction with the 2007 AQMP, this group has not met for several years.

The City of Mission Viejo recommends that an AQMD EGM-01 Working Group be immediately convened to initiate discussion on the proposed measure, and that at minimum, representatives from the Orange County Council of Governments and the Orange County Transportation Authority be included in the Working Group. All local jurisdictions in the South Coast Air Basin should also be

informed on all outreach and meeting materials, and webcasting opportunities provided for all Working Group meetings.

The City of Mission Viejo also recommends that AQMD consider more realistic adoption and implementation dates for EGM-01, and delay the adoption and implementation dates currently identified in the draft Plan, to accommodate a robust discussion of EGM-01 with stakeholders.

b) Address how the rule would interact, conflict, or supplement existing development approval and environmental requirements: The City of Mission Viejo is concerned how the implementation of the proposed measure would interact with existing and proposed regulations and requirements. As example:

(1) Would an EGM-01 emissions generation analysis be separate or coordinated with local jurisdiction environmental analysis (i.e., CEQA) requirements for a project? What happens if AQMD's threshold for an emissions generation analysis is imposed upon a project that requires no discretionary action by the local jurisdiction?
(2) Would EGM-01 impose an additional fee on development projects? If such a fee were imposed, how would AQMD use the fee, and would the benefits of the fee-capture return back to the city and county from where the fee was collected?
(3) How does the potential requirement of an emissions generation analysis complement or conflict with the State's proposal to require a Vehicle-Miles Traveled analysis for development projects, or with the Governor's "by-right" housing proposal?

39-3 Con't

4. Funding for Incentive-Based Measures

At a July 19, 2016 public workshop on the draft 2016 Plan, South Coast AQMD staff identified that significant funding – approximately $11 to $15 billion over 15 years – is needed to attain the emissions reduction standards called forth in the Plan. The City of Mission Viejo inquired, and AQMD staff confirmed, that such funding must be reasonably expected to be available, and AQMD staff noted that an action plan to secure the incentive funding would be developed.

Recommendation: While an overall estimate of funding need has been identified for the incentive-based measures over the 15-year planning period of the 2016 AQMP, there is no identification of:

39-4

a) how much of the incentive funding is needed for each proposed measure;
b) how much of the funding would be allocated to the different agencies involved in measure implementation (i.e., the California Air Resources Board versus the South Coast AQMD);
c) what are the funding sources that would be secured to fund the incentive-based measures; and,
d) what is the cost-effectiveness of the incentive funding for each proposed measure.

The City of Mission Viejo would recommend that AQMD's proposed Incentive-Based Measures Funding Action Plan be developed and released concurrently with

the Revised Plan documents, and that said Action Plan include a discussion of the questions noted above.

Thank you for the opportunity to provide input on the June 2016 draft of the 2016 AQMP, and for consideration of the larger-order comments and questions noted above, in AQMD's preparation of a September 2016 Revised Draft of the 2016 AQMP. The City of Mission Viejo looks forward to conducting a comprehensive policy and technical level review of the September 2016 Revised Draft Plan, in coordination with the to-be-released Socioeconomic Assessment and the Draft Program EIR.

39-4 Con't

Additionally, the City of Mission Viejo concurs with the Orange County Council of Governments (OCCOG) comments dated August 16, 2016 on the June 2016 draft of the 2016 AQMP.

Should you have any questions or seek clarification on our submitted comments, please do not hesitate to contact Ms. Elaine Lister, Director of Community Development, at 949/470-3069, or via email at elister@cityofmissionviejo.org.

With appreciation,

Dennis R. Wilberg,
City Manager
City of Mission Viejo

cc: Keith Rattay, Assistant City Manager
Elaine Lister, Director of Community Development
Larry Longenecker, Planning Manager
Marnie O'Brien Primmer, OCCOG Executive Director
Marika Poynter, OCCOG TAC Chair (City of Irvine)
Greg Nord, Orange County Transportation Authority
Gail Shiomoto-Lohr, GSL Associates

Responses to Comment Letter from the City of Mission Viejo
(Comment Letter #39)

Response to Comment 39-1:

Please see Response to Comment 38-1 regarding the staggered release of the Plan and related documents such as the Socioeconomic Assessment and Draft PEIR. Per your suggestion, the Revised Plan was released with track changes to assist the reader with the changes made since the Draft Plan.

Response to Comment 39-2:

Staff encourages the commenter to participate in the working groups that will be established to develop the guidelines necessary for each of the incentive programs. Staff agrees that clarification will need to be made during this process including impact to existing local planning procedures, how the incentive money will be allocated, contract agreements, as well as recordkeeping and reporting responsibility. These issues will be clarified as part of the working group process with full public input.

Response to Comment 39-3:

Staff will include local governments and sub-regional organizations as part of the working group.

Staff appreciates the comment to set later timelines for the adoption/implementation of the measure and will consider revising the dates.

Response to Comment 39-4:

Staff is preparing a draft Financial Incentive Funding Action Plan as a companion document to the AQMP. The draft Financial Incentive Funding Action Plan will be released for public comments prior to the adoption of the AQMP with ample time for public review.

Please see Response to Comment 38-2 with regard to funding for each measure, agency responsibility, funding sources, and cost-effectiveness. Staff will take into consideration the Commenter's recommended actions.

Comment Letter from Climate Resolve (Comment Letter #40)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

Please enter your contact information, comments and/or upload comment files below. The information collected may be used to provide further information about public workshops and hearings, and other events related to the 2016 AQMP. Responses to comment will be compiled and included in the final Plan package.

*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/19/2016	12:27 PM	2016

Commentor Contact Information

Commentor's Name *	Organization *	City	State	Zip Code
DAVID FINK	CLIMATE RESOLVE If not representing a specific organization, please enter "No Affiliation".	LOS ANGELES	CA	90013

Comments (Unlimted Size)

Thank you for the opportunity to comment on the 2016 AQMP. The document is robust on comprehensive with a few notable areas we would like to see included and/ or expanded. The first is in regards to cool roof technology. In Chapter 4 you reference cool roofs the associated benefits including: energy efficiency gains, reduced ozone formation and emission reduction. It should be noted that in 2015 the city of Los Angeles began requiring cool roofs on all new residential construction as well as re-roofs when over half the roof is being replaced and that the Los Angeles Department of Water & Power (LADWP) offers a two tiered cool roof rebate. To expand the benefits beyond LA City an LA county (and surrounding counties) residential cool roof mandate or a statewide mandate could be implemented. Also to expedite deployment SoCal Edison and other utilities could offer a similar rebate to the one offered by LADWP. The next item which we would like to see language on is the benefits and opportunities for cool pavement technology. Similar to cool roofs, cool pavements can dramatically lower ambient temperatures on very hot days and provide cooler temperatures in the evenings as well. Wide-spread deployment of cool paving materials could significantly reduce the urban heat island effect. There likely needs to be some technological development before the materials are cost effective but with demand an economy of scale can be quickly built leading to more affordable materials. Much like cool pavements cool coatings have the same benefits but unlike cool pavements they are ready to be deployed and have been on a small scale. The main difference is that they are not made to withstand high traffic roads but are applied on parking lots, service roads etc. mandates could be in place that require cool coatings on new parking lots and service roads etc. The third area that should be included is urban forestry or more specifically an expanded urban tree canopy. The Los Angeles Sustainable City pLAn calls to "Initiate tree and tree-canopy registry to document LA's urban forest to guide tree planting investments". This is a good start with tree canopy expansion targets as a potential longer term goal. Trees provide much needed urban cooling through shading and evapo-transpiration. All this leads to lower ground level air temperatures cooling buildings, streets, cars and other forms of transportation. Lastly, active transportation is referred to in Chapter 4 (page 4-35) under "SCAG's Regional Transportation Plan/Sustainable Communities Strategy and Transportation Control Measures". Another document that could be included to promote biking, walking and taking public transit is the Mobility Plan 2035, the City of Los Angeles' transportation policy which was updated in 2015. The Mobility Plan calls for among other things: a variety of new mobility options, such as frequent reliable transit, mobility hubs, a safe bicycle network, more walkable neighborhoods, ride-sharing and car sharing. Thank you again for the opportunity to comment on the 2016 AQMP. Please let us know if you have any questions or if we can provide any further details based on the above comments.

40-1

40-2

40-3

40-4

40-5

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *

For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

Responses to Comment Letter from Climate Resolve
(Comment Letter #40)

Response to Comment 40-1:

Ongoing meteorological and chemical transport modeling will help determine whether and to what extent cool roofs lead to improvements in air quality. Control measure ECC-04 addresses cool roofs.

Response to Comment 40-2:

SCAQMD staff is aware of the potential impacts of cool pavements and cool coatings on local air quality. Staff is in the early stages of quantifying these effects with meteorological and chemical transport modeling. For more discussion, the Plan includes a possible control measure (ECC-04) that addresses cool roofs that is achieved with cool coatings. Cool roofs can be achieved by various methods such as applying special coating material to existing roofs or adding cooling material into roofing material during manufacturing. The control measure addresses the coating method only. The details can be found in Appendix IV-A.

Response to Comment 40-3:

Cool pavements can have significant effect as well. However, the data to investigate the cool pavement impact is not readily available yet, therefore the control measure addresses cool roofs only at this time. Staff will continue to evaluate the cool roof and pavement impacts on air quality.

Response to Comment 40-4:

Staff is aware of the potential for increases in urban forestry to reduce building cooling emissions and increase walkability of urban areas. However, more urban vegetation can also increase biogenic emissions. A modeling analysis would be required to quantify the net effect of urban forestry on air quality.

Response to Comment 40-5:

Staff supports efforts by SCAG to promote biking, walking and taking public transit. As the commenter is aware, the emission reductions achieved by SCAG's 2016–2040 RTP/SCS are included in the baseline emissions inventory in the 2016 AQMP so it is critical these programs are successful for the 2016 AQMP to achieve its goals in a timely manner.

Comment Letter from Del Amo Action Committee (Comment Letter #41)

Florence Gharibian (Florence Gharibian@yahoo.com)
Chair, Del Amo Action Committee
Los Angeles Environmental Justice Network Member
21715 Lasso Lane
Walnut, California 91789
(818) 303 5914

Subject: ID No. EPA-HQ-OAR-2010-0682 Proposed Refinery Rule Comments

Dear Interested Party:

I began my environmental work at the USEPA National Field Investigations Center at the Denver Federal Center in November 1972. I worked in the library and assisted the research scientists at the Center in their valuable work. Much of that work focused on determining pollution of major water bodies through remote sensing. The only computer in the office was a monster machine located in the Director, James Gallagher's office. After graduating from the University of Colorado in 1974 I transferred to the San Francisco Region 9 Office where I continued my career in the Library. In 1981 I accepted an assignment with the State of California working as the Director of the Office of Public Information and Participation during a tumultuous time when the Stringfellow site in Riverside County, CA was notorious and controversial. Ultimately I accepted a position as a Waste Management Specialist with the State of California. When I retired in May 2011 I was a Branch Chief in the Enforcement Program supervising staff in Los Angeles County. I am honored now to serve as the Chair of the Del Amo Action Committee and as a member of the Los Angeles Environmental Justice Network. The comments submitted today are based on my own review of the Draft Refinery Rule. 41-1

I thank God for the work I do in protecting the environment. When I began my employment at the USEPA passion ran high. The path taken was new ground. So many educated people worked so hard to find the right way to clean up our environment. I traveled to Riverside County to work on the Stringfellow site in the early 80's when the air there was acid, air pollution an ever present reality. So many, working hard and applying the best science have accomplished much since that time. It is time now to take the next steps. Continuing to clean up our air is an urgent priority. I know the petroleum industry influences environmental rule making. I'm sure you have received many comments from representatives of this industry. They have the ability and money to hire lawyers and write comments arguing they've done enough, are doing enough, will have to spend money needlessly etc. Please consider the comments of the environmental groups who were forced to sue the USEPA to get something

done just as seriously as you consider the comments from the petroleum industry and their representatives.

41-1 Con't

I have the following comments:

Comment One

The regulations refer to the Maximum Available Control Technology. Utilizing the Maximum Available Control Technology must include using the best science available to determine real time emissions from the refineries. This data must be available to the public.

The USEPA fact sheet on the proposed rule includes this quote:

"The Clean Air Act requires the EPA to review and revise the national emission standards for air toxics, as necessary, taking into account developments in practices, processes and control technologies since the issuance of the original standards."

The California South Coast Air Quality Management District Board participated in a meeting in May 2014. A presentation was given at this meeting on Optical Sensor equipment. The South Coast web site includes several references to this equipment.

41-2

This technology is used to quantify emissions from refineries. The South Coast Air Quality Management District is currently considering purchasing this equipment for use in monitoring air emissions at refineries in the District. **When this equipment was used to quantify emissions from refineries the emissions were much higher than those reported by the refineries.**

I know that the term Maximum Available Control Technology is not a term applied to monitoring equipment traditionally. I am asking the USEPA to demand that the refineries use equipment to monitor their emissions that utilizes the best science available to measure as accurately as possible the emissions from the refinery. I am also asking the USEPA to evaluate the monitoring equipment described in the information found on the South Coast web site and to consider employing this equipment to do air emissions monitoring.

Comment Two:

Please provide information on how the USEPA will insure that the refineries are complying with the new rule when it is finalized. Will the USEPA conduct inspections; do air monitoring to insure that the refinery emissions data is accurate? Will the USEPA conduct enforcement and impose meaningful penalties on violators when violations are cited as a result of inspections?

41-3

It is my experience that without effective inspections and enforcement, rules and regulations are not effective. This component must be indentified and defined in the regulations.

In preparing the comments I'm submitting today I reviewed a document completed by the California Environmental Protection Agency in February 2014; *Improving Public and Worker Health and Safety at Petroleum Refineries, Report of the Interagency Work Group on Refinery Safety (February 2014 Report).* The work group was convened in the aftermath of a serious chemical release and fire at the Chevron Richmond oil refinery in August 2012. Governor Brown formed an Interagency Working Group to examine ways to improve public and worker safety through enhanced oversight of refineries and to strengthen emergency preparedness in anticipation of any future incident. The Working Group consists of participants from 13 agencies and departments, as well as the Governor's Office. The report is available at the California Environmental Protection Agency site on the Interagency Refinery Task Force.

41-3 Con't

Many of my comments are based on and are reinforced by the Task Force findings.

At one point in my career I served as an inspector for the CA Department of Toxic Substances Control in Los Angeles. In doing this work I went to industries located in Los Angeles Environmental Justice communities. I also went to some of the Los Angeles oil refineries. My observations when doing this work prompted me to research the age of the refineries in Los Angeles. The Chevron El Segundo Refinery was built in 1912, Conoco Phillips Wilmington, 1917, Exxon/Mobile Torrance, 1907. The process of refining oil is not new. Having seen some of these refineries myself, the refineries are not new. It is logical to assume that fugitive emissions and accidents at these refineries are more likely to occur at equipment and piping that is, in some cases, over 100 years old.

Comment 3:

The refineries should be required to conduct inventories and provide information on equipment that will be replaced because it is old and might cause "unintended" releases. (I use the word unintended because that is the word used by the USEPA in the introduction to the regulations. I think this word is entirely too polite.) To support this comment I offer a quote from the February 2014 Governor's report referenced above: The USEPA should consider implementing a process similar to the Near Miss Incident Report used in the airline industry. This process enables workers to submit information on equipment requiring repair or other problems they see when they are doing their work. This program prohibits retaliation against employees identifying problems.

41-4

Following is a quote from the CalEPA February 2014 report:

"Workers involved in facility operations, represented by the United Steelworkers, reported that refinery structures are old and outdated, corrosion is pervasive, process safety management staffing has been reduced, and preventive maintenance is often not conducted before failure occurs. Workers also expressed concern that those who exercise their authority to shut down unsafe operations may experience retaliation by management, that relying on shut-down actions by workers shifts responsibility away from management's obligation to ensure mechanical

integrity through preventive maintenance, and that maintenance and safety problems identified by refinery workers are not always corrected in a timely fashion. Several workers additionally reported that, in their view, management does not take seriously the monitoring of employee exposures to hydrogen sulfide, which can be immediately fatal."

41-4 Con't

The workers at a refinery are at greatest risk of the health impacts from the hazardous chemicals. They have the highest rate of exposure to the chemicals. They are at greatest risk from an accident resulting in an explosion or fire.

Comment 4

I hold in my hand a notice routinely published in the Los Angeles Times. The headline in the notice is WARNING. The notice states *"Chemicals known to the State of California to cause cancer, birth defects and other reproductive harm are in and around oil fields,"* The notice is published by eleven refineries in Los Angeles. The health risks of the hazardous chemicals used or created at refineries are based the health evaluations on individual chemicals. The understanding of the cumulative health risks of the multiple chemicals found on refineries and at industries on or near refineries is non-existent or limited at best. This inadequate understanding argues for conservative regulatory limits and the use of the most comprehensive and accurate testing possible.

On August 13, 2014 the California Environmental Protection Agency announced the availability of Cal EnviroScreen 2.0. The Office of Environmental Health Hazard Assessment created this screening methodology that is used to help identify California communities that are disproportionately burdened by disproportionately burdened by multiple sources of pollution.

41-5

The development of the screening tool was identified as a first step in assuring that all Californians have access to environmental justice, the California Environmental Protection Agency determined that it was necessary to identify the areas of the state that face multiple pollution burdens so programs and funding can be targeted appropriately toward improving the environmental health and economic vitality of the most impacted communities. Many Californians live in the midst of multiple sources of pollution and some people and communities are more vulnerable to the effects of pollution than others. For this reason, the Agency and the Office of Environmental Health Hazard Assessment (OEHHA) developed a science-based tool for evaluating multiple pollutants and stressors in communities, called the California Communities Environmental Health Screening Tool.

A cursory review of the data provided in this screening tool demonstrates that many of the communities identified as communities threatened by the burden of serious pollution are located in the same locations as the majority of California's refineries. This truth strengthens the argument for the most accurate air emissions data for the refineries. It argues for conservative emission standards, it argues for making the refineries as safe and healthy as possible for the people who work at the refineries and the communities surrounding them.

Closing Comments

I offer in my comments several reliable sources of information. The information is up to date, all published in 2014. The reports and other information I've cited are developed by organizations with integrity and knowledge. Please review this information and my comments in your work to finalize these important regulations. It matters.

Sincerely Yours,

Florence Gharibian

Florence Gharibian
Chair, Del Amo Action Committee

Responses to Comment Letter from Del Amo Action Committee
(Comment Letter #41)

Response to Comment 41-1:

Staff appreciates your interest in the environmental issues of our region, years of dedicated work for the health of others, and participation in the development of the 2016 AQMP.

Response to Comment 41-2:

While this comment appears to be directed toward a proposed EPA refinery rule, it was submitted as a comment on the AQMP. Staff will respond to individual points as they may relate to the AQMP. The AQMP includes control measure FUG-01 which proposes to study and implement a Smart-LDAR program to monitor fugitive emissions from refineries and oil and gas production facilities. Optical Gas Imaging is included as one of the potential technologies to be utilized for fugitive emission monitoring.

Response to Comment 41-3:

The U.S. EPA has the ability to conduct inspections, do air monitoring and conduct enforcement at refineries located in SCAQMD. In most instances however, SCAQMD staff performs those tasks. Several SCAQMD teams are dedicated to ensuring compliance at refineries on a regular basis. As part of their routine compliance duties, SCAQMD inspectors verify compliance with leak detection and repair regulations at refineries to limit fugitive emissions from pipelines, storage tanks and processing equipment.

Response to Comment 41-4:

The SCAQMD heavily regulates and enforces refineries under the RECLAIM program, however, the Plan is proposing further assessment of the RECLAIM program to continue to improve or even possibly sunset the program and transition to a command-and-control approach. Retaliation at regulated facilities is already prohibited by the Clean Air Act, 42 U.S.C. § 7622. Staff appreciates the real concern this could pose for an employee who is ever in that position.

Response to Comment 41-5:

The SCAQMD has a comprehensive toxic control program, oversees compliance with AB 2588, and requires cumulative health risk analyses in CEQA documents. The Draft Plan does include an education and outreach measure (FLX-01) that is intended to increase awareness of existing regulations and how to further educate the public regarding air pollution and encourage local involvement to assure local neighborhoods are not being polluted unchecked. The Draft Plan also addresses oil fields in such measures as CMB-04 seeking to replace traditional non-refinery flares with gas handling equipment or procedures that are much cleaner and useful such as use as a transportation fuel. Please see Response to Comment 41-4 regarding refineries.

Comment Letter from Gateway Cities Council of Governments (Comment Letter #42)

DRAFT 2016 AIR QUALITY MANAGEMENT PLAN

2016 AQMP Comment Form

Please enter your contact information, comments and/or upload comment files below. The information collected may be used to provide further information about public workshops and hearings, and other events related to the 2016 AQMP. Responses to comment will be compiled and included in the final Plan package.

*Fields Required to Submit a Comment

Form Informtion

Date Created	Time Created	AQMP Year
08/19/2016	12:20 PM	2016

Commentor Contact Information

Commentor's Name *	Organization *	City	State	Zip Code
NANCY PFEFFER	GATEWAY CITIES COUNCIL OF GOVERNMENTS	PARAM OUNT	CA	90723

If not representing a specific organization, please enter "No Affiliation".

Comments (Unlimted Size)

1) The draft AQMP proposes to reduce emissions in part by adopting a suite of incentives that would provide public funding to supplement private investment in cleaner, lower-emitting technologies. This is a constructive approach, provided that the District comes up with a clear plan for obtaining incentive funding and that this funding plan does not place undue burdens on either local governments or on employers in our region. 42-1

2) The plan includes a proposed measure denoted "EGM-01" which would consider controls on emissions from new development and redevelopment projects. The draft AQMP does not call for any emission reductions from this measure; instead, we understand that the District plans to convene a working group of affected parties to discuss and further develop this measure following adoption of the AQMP. We would like to be included in this working group. 42-2

3) The plan includes four measures focused on mobile sources associated with goods movement, denoted "MOB-01" through "MOB-04." The draft AQMP does not call for any emission reductions from these measures; instead,we understand that the District plans to convene a working group of affected parties to discuss and further develop these measures following adoption of the AQMP. We would like to be included in this working group. 42-3

Upload Additional Comment and Supporting Files (30 Mb Maximum per file)

AQMP Comments Files

Note: Supported upload files include all versions of Microsoft Office, jpeg, tiff, PDF, mp3, mp4, and text files.

Commentor Signature *

For More Information Contact: Angela Kim (akim@aqmd.gov) (909) 396-2590

Responses to Comment Letter from Gateway Cities Council of Governments (Comment Letter #42)

Response to Comment 42-1:

Staff appreciates the comments regarding the incentive funding approach. Relative to the preparation of the Draft Funding Action Plan, staff has developed a set of guiding principles to secure and disburse incentive funds. One of the proposed principles addresses your concern regarding the need to minimize the economic impact from the funding source. The Funding Action plan will be proposed for consideration by the Board at the same time as the AQMP.

Response to Comment 42-2:

Proposed measure EGM-01 does not have any associated emission reductions at this time since the measure calls for formation of a working group to identify actions that could be taken to mitigate emissions from new and redevelopment projects. Staff welcomes Gateway Cities Council of Governments participation on the working group.

Response to Comment 42-3:

As noted in the Revised Draft 2016 AQMP, MOB-01 through MOB-04 are proposed to help meet the State SIP Strategy "Further Deployment of Cleaner Technologies" measures emission reductions. The measures seek to work collaboratively with affected stakeholders and the public to identify actions that could help achieve the State SIP Strategy emission reductions. A working group will be created to help implement the measures. Staff welcomes Gateway Cities Council of Governments participation on the working group.

Comment Letter from Gatzke Dillon & Ballance LLP (Comment Letter #43)

G | D | B Gatzke Dillon & Ballance LLP
LAWYERS

August 19, 2016 *By Electronic Mail*

Michael Krause
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4182
mkrause@aqmd.gov

Re: *Comments on Draft 2016 Air Quality Management Plan*

Dear Mr. Krause:

This letter is submitted on behalf of John Wayne Airport, Orange County (Airport or JWA) and contains the Airport's written comments on the Draft 2016 Air Quality Management Plan (Draft 2016 AQMP) issued by the South Coast Air Quality Management District (SCAQMD or District) on June 30, 2016. We appreciate the opportunity to provide comments and to continue to work constructively and cooperatively with the SCAQMD in evaluating and developing realistic airport emission reduction strategies for the Draft 2016 AQMP.

We hope that our past comments, our comments in this letter, and our continued cooperation in this process will allow us to make meaningful contributions toward resolving and addressing the complex airport regulatory issues associated with air quality in the Basin.

43-1

GENERAL COMMENTS

The Airport has the following general comments on the Draft 2016 AQMP:

1. First, it is important for us to emphasize the serious concerns the Airport has about SCAQMD's proposal to control indirect sources through "facility-based" mobile source measures, including MOB-04 (Emission Reductions at Commercial Airports). These types of control measures seek to reduce emissions from on- and off-road sources, which are within the exclusive purview of the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA), both of which already have rules and regulations in place for these sources to significantly reduce criteria pollutant emissions. In addition, the Airport is concerned about the SCAQMD making commitments to the state and federal governments that it will control emissions through indirect source rules because SCAQMD lacks legal authority to adopt indirect source rules at airports.

2. Second, both the District and ARB have acknowledged that the proposed indirect source control measures, including MOB-04, are not necessary to meet the requirements of the federal Clean Air Act. Further, there is no emission reduction target for MOB-04, or any of the other indirect control measures, in the Draft 2016 AQMP, and there appears to be

43-2

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little or no emission reduction benefits from the indirect source control measures proposed. Instead, it is clear that additional mobile source emission reductions will come from new measures that call for greater emission reductions through accelerated turnover of older vehicles to the cleanest vehicles and equipment currently available, and increased penetration of commercially-available near-zero and zero-emission technologies through existing incentives programs. 43-2 Con't

3. Third, the proposed facility based mobile control measures, including MOB-04, appear to leave the door open for the adoption of facility emission caps and performance targets; concepts which the Airport has repeatedly opposed. These concepts would represent a legally questionable expansion of the SCAQMD's regulatory authority over airports in the South Coast Air Basin. 43-3

4. Fourth, to the extent the SCAQMD attempts to impose airport emission caps and/or performance targets, a key concern will be the use of a baseline to measure emissions reductions and the apparent failure of this method to provide some type of "credit" to the Airport for the significant emission reduction measures that have already been implemented and are currently being implemented to reduce air quality impacts associated with Airport operations. These measures already provide: (i) more efficient fuel operations and consumption; (ii) the ability to manage aircraft operations in a more efficient manner; (iii) a reduction in the fugitive dust generated by aircraft activity at JWA; (iv) improvement in traffic circulation within the vicinity of JWA; and (v) the possibility for use of alternative fuels. In order to maintain equity and to avoid inadvertently "penalizing" those who voluntarily implement significant air quality reduction measures, the Draft 2016 AQMP should provide some type of "credit" to "sources" for these efforts rather than reflect these emission reductions into future emissions inventories and/or in baseline emissions inventories. 43-4

5. Finally, in addition to the general comments provided above, we also have a number of specific comments relating to the Draft 2016 AQMP discussion and analysis, which are provided below. 43-5

SPECIFIC COMMENTS

The District includes discussion of two categories of potential control measures included in the Draft 2016 AQMP; control measures to be implemented by SCAQMD and control measures to be implemented for sources under State and federal jurisdiction. The specific comments of the Airport address both of these categories of control measures.

A. MOBILE SOURCE CONTROL MEASURE – MOB-04 – EMISSION REDUCTIONS AT COMMERCIAL AIRPORTS

The District is proposing a number of new mobile source control measures. One of these proposed measures, MOB-04, Emission Reductions at Commercial Airports, focuses on imposing possible regulations on airports in the Basin. The Draft 2016 AQMP does not provide the specific program for this control measure, but, instead, describes the measure in broad, non-specific terms.

Although the Airport understands why this control measure has been provided in concept only at this point, the Airport is concerned with a number of potential issues regarding any type of indirect source control measure, including the District's authority to regulate airports, direct accountability, and the possible imposition of a mitigation fee program or other clean fleet incentive program. The Airport would like to provide comments on each of these topics as follows:

1. District's Authority to Regulate Airports

43-6

According to the Draft 2016 AQMP, it appears that the District is considering the use of an indirect source control measure, including a mitigation fee program, for proposed commercial aviation measures. We have discussed at length with the District, ARB, and the U.S. EPA our concern regarding the role of the airport proprietor with respect to the administration of air quality emission strategies at airports in the Basin. And, as you know, we have expressed strong opposition to the measures previously proposed by the District. The airports are not in favor of becoming the air quality "enforcers" for all airport users. In addition to our concern regarding the airport proprietor's exact role and obligations under any "indirect source rule" that may be considered, we are concerned as to what, if any, penalties airport proprietors might be subjected to if one of their airport users fails to provide the required emission reductions in connection with their operation(s).

We also have serious doubt, particularly in the context of the Airport Noise and Capacity Act of 1990 (49 USCA §2151, *et seq.*) (ANCA), as to whether airport proprietors generally have sufficient residual regulatory authority to act effectively as the agencies implementing and enforcing any indirect source regulation imposed by the District. At a minimum, the District should receive adequate assurances from the Federal Aviation Administration (FAA), the Department of Transportation (DOT), and any other relevant federal authorities that airport proprietors do, in fact, have sufficient regulatory authority to allow them to make meaningful implementation choices, and which would allow them to enforce local regulations to achieve whatever mandates are imposed on them by the District.

We also continue to have a fundamental disagreement with the District regarding the extent of the District's authority to regulate airports. Specifically, we continue to believe that, to the extent the District attempts to regulate aircraft related emissions, directly or indirectly (as is the case with an indirect source control measure), any such regulation would constitute a constitutionally impermissible local intrusion into a federally preempted field of regulation. (*People of State of Cal. v. Dept. of Navy* (1977) 431 F.Supp. 1271, 1281; *Washington v. General Motors Corp.* (1972) 405 U.S. 109, 92 S.Ct. 1396, 31 L.Ed.2d 727.) The District's attempted indirect regulation of airport related emissions would be an impermissible and unconstitutional intrusion into an area which is pervasively and exclusively controlled by federal law and federal authority. (*City of Burbank v. Lockheed Air Terminal, Inc.* (1973) 411 U.S. 624, 633.)

43-6 Con't

2. Direct Accountability

Another primary concern we have with any measure to reduce emissions from airports in the Basin is that it require direct accountability. We therefore want to reemphasize the position which has been consistently conveyed to the District regarding the role of the air carrier airports in the Basin in addressing the air quality challenges which face our region. Specifically, we continue to believe that any air quality regulations should ensure direct accountability for emissions. JWA strongly supports direct accountability for emissions related to aircraft operations and related emission sources, and is concerned that any indirect source control measure would inappropriately and unnecessarily blur the lines for direct accountability from these emissions sources.

43-7

3. Implementation of a Mitigation Fee or Clean Fleet Incentive Program

The Draft 2016 AQMP references a possible mitigation fee and/or clean fleet incentive program in the context of MOB-04. Specifically, in the proposed action section, the Draft 2016 AQMP indicates that these types of measures would require the District to partner with airports to incentivize cleaner aircraft to come to California airports and require the imposition of mitigation fees.

43-8

The Airport has a number of concerns with respect to the implementation of any type of mitigation fee program or program which requires airports to provide incentives for airlines to fly only their cleanest fleets in the Basin. First, it is unclear, among other issues, how such a mitigation fee program or clean fleet incentive program would be monitored and administered; how such a mitigation fee program/clean fleet program would be enforced; how the District would determine aircraft activity at individual airports in the Basin; what would be used as a baseline for monitoring purposes; and what type of emission sources would be regulated under the mitigation fee and/or clean fleet program.

Second, for many of the reasons discussed above, airport-enforced mitigation fee programs or clean fleet programs have continually been opposed by the FAA.

Third, mitigation fee programs imposed on airlines, in theory, may result in activity reductions or the use of the "cleanest fleet" where mitigation fees are imposed. Under a program of this type, presumably commercial aircraft and general aviation aircraft owners or operators pay a "mitigation fee" based upon some type of emission measurements or aircraft activity or both. It is unclear to what extent these types of measures impact the natural evolution of the commercial and general aviation community, and, in particular the new entrant aviation community, and to what extent they may effect competition in the Basin.

43-8 Con't

Fourth, and finally, any regulatory program that results in imposing mitigation fees or clean fleet incentive programs could potentially result in an enormous administrative burden to airports throughout the Basin.

B. EMISSIONS INVENTORY

Over the past several years, JWA has provided information to SCAQMD staff relating to its baseline emissions inventory as well as its projections for future aircraft activity (both general aviation and commercial aircraft) at the Airport. As this information indicates, and as the District knows, the Airport is under certain legal and operational constraints with respect to existing and future operations. We appreciate SCAQMD's recognition of the uniqueness of the legal and regulatory constraints as well as the available infrastructure (existing and planned) at each of the airports in the Basin and the necessity of taking into account both the unique characteristics and available infrastructure at each of the airports in the context of the continued development and approval of any regulatory strategies, including proposed measure MOB-04.

One concern we have, however, is that it appears that none of the initially published data from SCAQMD provides JWA specific emissions inventories. Rather, it appears that all of the emissions inventory data for airport forecasts is based upon categories of sources with a reference to the 2016-2040 RTP/SCS data from SCAG. (*See, e.g.*, Draft 2016 AQMP, Chapter 3). Unfortunately, SCAG did not use the data provided by JWA to forecast fleet mix and Landings and Take-offs (LTO) for 2040. JWA has provided the SCAQMD (via correspondence with Zorik Pirveysian of Intergra Environmental Consulting, Inc.) with JWA specific data. We therefore request that the Draft 2016 AQMP be revised to use the specific data provided by JWA to the District to forecast fleet mix and LTO's at the Airport rather the data from SCAG which is not airport specific.

43-9

As indicated above, another key and continuing concern relating to the use of a baseline to measure emissions reductions is the current failure of this method to provide some type of "credit" to the Airport for the significant emission reduction measures that have already been

implemented and are currently being implemented to reduce air quality impacts associated with airport operations. As indicated above, in order to maintain equity and to avoid inadvertently "penalizing" those who voluntarily implement significant air quality reduction measures, the Draft 2016 AQMP should provide some type of "credit" to "sources" for these efforts and not simply "bake" into the baseline these significant emission reduction measures.

According to the Draft 2016 AQMP, quantified emission reductions that are real, surplus, permanent, and enforceable will be reflected in future emissions inventories as part of the Rate-of-Progress reporting requirements or *in the baseline emissions inventories* as part of future AQMP/SIP development. It is unclear from this statement what data SCAQMD will rely upon for the baseline emissions inventories and what data it will use for the estimated projected reductions in airport generated trips that could occur through implementation of the proposed control measures. In addition, if the baseline emissions inventories in the Draft 2016 AQMP will not be used by the District as the performance standards for proposed measures, the Draft 2016 AQMP must be revised to accurately indicate what performance standards or objectives the District will adopt for the air transportation industry. The Draft 2016 AQMP should also be revised to include a discussion of some type of "credit system" that will be provided for airports that have already implemented significant emission reduction measures.

43-9 Con't

C. POTENTIAL INCONSISTENCIES BETWEEN EXISTING AND PROPOSED NEW CONTROL MEASURES

The long term control measures identified by the Draft 2016 AQMP to be considered by ARB for implementation continue to: (1) pursue approaches to reduce emissions from ground support equipment (GSE) (OFFS-04); (2) require zero emission airport shuttle-buses (ORHD-07); and (3) require fleet and facility modernization. We continue to be concerned about these long term control measures because, as you know, the SCAQMD already has a number of regulatory rules governing vehicle fleets. Any future regulatory measures should be consistent with these existing regulations. In addition, airports should not be required to regulate or administer emission reduction programs for vehicle fleets or GSE that they do not own or operate. As indicated above, this type of indirect source rule would not be within SCAQMD's legal authority.

43-10

D. COST EFFECTIVENESS

Although the Draft 2016 AQMP includes a preliminary assessment of the cost effectiveness of available and proposed measures, this preliminary analysis does not adequately address the public policy concerns which the District must consider. In addition, the cost effectiveness of other proposed regulatory measures, including any possible mitigation fee program or clean aircraft incentive program, are not discussed. It is imperative that before any further analysis is conducted regarding any of the measures provided in the Draft 2016 AQMP directed toward

43-11

airports and airlines, that the District prepare appropriate and complete analyses of the cost effectiveness of all of the proposed measures as mandated by California law in order to provide the airports in the Basin with information which measures the full costs of any and all possible regulatory programs in terms of the increase in emission reduction costs versus program and improvement costs. (*See, e.g.,* Cal. Health & Safety Code 40440(e), 40703, and 40913(b)). The CALIFORNIA CLEAN AIR ACT also requires the District Governing Board to determine that the Draft 2016 AQMP is a cost-effective strategy that will achieve attainment of the state standards by the earliest practicable date. (CAL. HEALTH & SAFETY CODE §§40440(e), 40703, and 40913(b).)

Certainly, it is imperative that before any further analysis is conducted regarding any of the possible regulatory measures mentioned in the Draft 2016 AQMP directed toward airports and airlines, the District prepare appropriate and complete analyses of the cost-effectiveness of all of the proposed measures as mandated by California law. Particularly, before the District provides further information regarding possible regulatory approaches, it is important for the District to take a "hard look" at this issue and to provide the airports in the Basin with information which measures the full costs of *any* and *all* possible regulatory programs in terms of the increase in emission reduction costs versus program and improvement costs. 43-11 Con't

In addition to the program and improvement costs, we continue to be concerned about the effect any emission reduction strategies will have on new entrant air carriers, especially relatively small air carriers with a limited fleet mix, and the importance of maintaining a competitive airline environment in the Basin. A regulatory scheme which would inhibit competition would probably result in significantly higher air fares to and from the Basin than in other parts of the country, which could in turn have a seriously negative effect on the local economy. This issue must also be taken into account when addressing the cost effectiveness of the proposed measures.

E. EMISSION REDUCTIONS AND PERFORMANCE STANDARDS

Although the Draft 2016 AQMP has identified a number of control measures for the airport and airline industry, including MOB-04, as indicated above, the Draft 2016 AQMP fails to discuss any performance standards and objectives for these measures despite ongoing discussion that indicates that the District could quickly pivot to regulation, if necessary, and that such regulations are within the District's legal authority. Have internal performance targets been established for these control measures? The Draft 2016 AQMP must provide any performance targets that have been established so that there is an opportunity to comment on the targets prior to developing specific control measures for the airport and airline industry. 43-12

In addition, although we understand that the rule development process will provide additional opportunity for public and stakeholder input as well as ongoing technical review, assessment of costs and environmental impacts, it is difficult to assess measure MOB-04 or the proposed State

Implementation Plan (SIP) strategy measures, including ORHD-07 (zero emission airport shuttle buses) and OFFS-04 (zero emission GSE), without further information on their proposed parameters; we look forward to better understanding the District's proposals. That being said, and as the District has recognized, in many instances, controlling emissions at airports in the Basin is constrained by legal, operational, technological, and economic limitations. Therefore, we encourage the District to continue to be sensitive to and informed of such constraints when designing or implementing any regulations developed by SCAQMD and predicting associated emission reductions.

43-12 Con't

CONCLUSION

In closing, thank you again for this opportunity to comment on the Draft 2016 AQMP. We look forward to continuing to engage in an open, thorough and responsive public process and assisting the District with its efforts to improve air quality in the South Coast Air Basin. If you have any questions regarding the comments set forth in this letter, please do not hesitate to contact us at your convenience.

Very truly yours,

Lori D. Ballance
of
Gatzke Dillon & Ballance LLP

LDB/rlf

cc: Mark Denny, COO, County of Orange
David Salardino, California Air Resources Board
Rhonda Runyon, California Air Resources Board
Barry Rondinella, Airport Director
Melinda McCoy, Airport Environmental Engineer

Responses to Comment Letter from Gatzke Dillon & Balance LLP
(Comment Letter #43)

Response to Comment 43-1:

Proposed measure MOB-04 is seeking to identify actions to help achieve the emission reductions associated with the State Mobile Source Strategy "Further Deployment of Cleaner Technologies" measures for light-duty vehicles, off-road equipment, and federal and international sources. Staff will be taking comments and input to identify actions that may be voluntary or regulatory in nature. Any proposed regulatory action by the SCAQMD will be within its legal authority.

Response to Comment 43-2:

See Response to Comment 43-1. Staff does not agree that these measures are not necessary. While they do not have separate emission reduction targets, this is because staff is seeking to identify additional actions through a public process (as discussed in MOB-04), to help meet the State Strategy emission reduction commitment.

Response to Comment 43-3:

MOB-04 is proposing that the overall AQMP emission reductions to attain federal air quality standard be used as an initial goal to help identify additional emission reductions. Staff will consider comments and input through the public process on identifying actions that result in additional emission reductions. The actions may be voluntary or regulatory in nature. Based on comments received, staff will work with affected parties to develop enforceable mechanisms to ensure that the resulting emission reductions remain permanent if the reductions are proposed to be included in the SIP.

Response to Comment 43-4:

Staff will work with affected stakeholders to evaluate what baseline emissions will be appropriate to identify actions that result in additional emission reductions.

Staff will take into consideration what actions have already resulted in additional emission reductions. If the actions are not recognized in the baseline and the actions are quantifiable and permanent, the resulting emission reductions may be taken as part of future Rate-of-Progress reporting and future AQMP revisions.

Response to Comment 43-5:

Staff appreciates your comments and participation in the development of the Draft Plan.

Response to Comment 43-6:

Staff believes that SCAQMD has the legal authority to regulate indirect sources as recognized by *National Ass'n. of Home Builders v. San Joaquin Valley Unified APCD*, 627 F. 3d 730 (9th Cir. 2009). Moreover, EPA's former indirect source regulation specifically identified airports as a type of indirect source .See "Indirect Source Controls: An Intersection of Air Quality Management and Land Use Regulation", Loyola of Los Angeles Law Review, 6-1-91, p. 1133. The 9th Circuit Court of Appeals rejected the contention that indirect source controls were preempted by the Clean Air Act's provisions regarding mobile sources. With regard

to any other potentially preemptive federal statute, we note that once the measure is approved into the SIP, it would be entitled to be harmonized with the provisions of that federal statute and upheld wherever possible. *Association of American Railroads v. South Coast AQMD*, 622 F. 3d 1094 (9th Cir. 2010). With regard to the airport's authority as a proprietor, this issue will be discussed further during the working group process to the extent there is a desire to rely on such authority.

Response to Comment 43-7:

Staff understands this comment to be suggesting that any indirect source measure be directed at airlines rather than at the airport as a whole. Staff will consider the feasibility of this option during development of the measure. Any such measure would need to include an enforceable mechanism to be included in the SIP.

Response to Comment 43-8:

SCAQMD staff recognizes your concern with a possible mitigation fee to comply with a facility-based measure regulating airports. The concept of a fee program is discussed as an example that will be further vetted during the working group meetings regarding this measure. In addition, any proposed fee program will go through analysis on the cost-effectiveness of such a program and if such a program is within the authority of the airports. Staff encourages stakeholders and interested parties to participate in these working group meetings to ensure the program and/or rule is developed in a feasible and effective manner.

Response to Comment 43-9:

The airport emissions are now replaced with the data provided by Mr. Zorik Pirveysian on Aug 10, 2016. According to the report by Mr. Pirveysian, emissions from John Wayne Airport (JWA) were estimated with EDMS model for the years of 2016, 2021, and 2026. This estimation was conducted based on JWA's detailed operations forecast for these years which covered air carrier, air taxi, and GA operations.

Response to Comment 43-10:

The SCAQMD is working closely with CARB to ensure that any proposed rules from CARB will be consistent with local rules. Please see Response to Comment 43-6 regarding legal authority.

Response to Comment 43-11:

Staff appreciates the comment and will consider the comments during the public process to identify additional actions. Although AQMP control measures are accompanied by cost-effectiveness data where feasible, in some cases this information can only be ascertained as the precise form of the measure is developed during subsequent rulemaking or development of other enforceable mechanisms.

Response to Comment 43-12:

In response to the concerns raised by the commenter, the Revised Draft Plan has been modified to include details regarding the trigger to pivot to regulation. If steps are not taken to implement the voluntary actions, SCAQMD staff will recommend to the Board whether to consider development of rules within legal authority no later than one year after the adoption of the Final 2016 AQMP.

Comment Letter from Lennox International Inc. (Comment Letter #44)

LENNOX INTERNATIONAL

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Dave Winningham
Sr. Engineering Manager,
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August 19, 2016

Michael Krause
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Submitted via: www.aqmd.gov

Re: Lennox Comments on SCAQMD Draft 2016 Air Quality Management Plan

Lennox International Inc. (Lennox) hereby submits comments on the, *Draft 2016 Air Quality Management Plan*, that was published by the South Coast Air Quality Management District in June 2016 (hereafter referred to as the "AQMP").

Lennox is a leading provider of climate control solutions for the heating, air-conditioning, and refrigeration equipment markets. Lennox is a publicly-traded company and has thousands of employees. Lennox manufactures HVAC and Refrigeration (HVACR) products that will be affected by the 2016 AQMP. Lennox appreciates the opportunity to work with SCAQMD to develop reasonable, practical regulations that help to further its goals. However, Lennox has concerns regarding the Draft AQMP and current SCAQMD regulations as outlined in the comments below.

Comments on the Draft 2016 AQMP. 44-1

Lennox recognizes that the federal Clean Air Act (CAA) requires areas not attaining the national ambient air quality standards (NAAQS) to develop and implement an emission reduction strategy that will bring the area into attainment in a timely manner and the role SCAQMD plays in this effort.

Lennox applauds the SCAQMD direction as stated in the draft plan; "The 2016 AQMP represents a new approach, focusing on available, proven, and cost-effective alternatives to traditional strategies, while seeking to achieve multiple goals in partnership with other entities promoting reductions in greenhouse gases and toxic risk, as well as efficiencies in energy use, transportation and goods movement. The Plan recognizes the critical importance of incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality, but also the local businesses and the regional economy. These "win-win" scenarios are key to implementation of this Plan with broad support from a wide range of stakeholders."

Lennox key concern regarding the draft 2016 AQMP is that the current SCAQMD regulations under Rule 1111 Low NOx requirement for Residential Furnaces products does not 44-2

seem well aligned with the strategy stated in the draft plan. Lennox is also concerned that as part of the Draft AQMP, CMB-02 – EMISSION REDUCTIONS FROM COMMERCIAL AND RESIDENTIAL SPACE AND WATER HEATING (i.e. rule 1111.1) will result in a similar situation to that current found for the Residential Furnaces under Rule 1111.

44-2 Con't

To summarize, the current situation regarding Rule 1111 is that we are 18 months into the implementation of the rule and there are no products available on the market that meet the 14ng/joule NOx requirement. While Lennox and other Furnace manufacturers participated in the technology assessment conducted by SCAQMD leading up to the promulgation of Rule 1111, it appears that the task of deployment of the technology and the burden associated with the rule has been significantly underestimated.

Rule 1111 as enacted employs a 3 year mitigation period and associated fees to allow manufacturers time to come into compliance. This mitigation period started in April 2015. Since the completion of the technology assessment Lennox has and continues to significantly invest toward development of low NOx products that meet the standard criteria. As we are now approaching the end of 2016, Lennox has concerns that the mitigation period for high efficiency gas furnaces may end without product being available to the market. Lennox is also concerned that the structure and timing of the mitigation period and fees first are not aligned with the 2016 AQMP and in fact could be a disincentive toward SCAQMD objectives and a significant burden to the HVAC industry.

The following summarizes Lennox's evaluation of current rule 1111.

44-3

- Mitigation Fee structure is a disincentive for higher efficiency products.
- Multiple burdens.
  - Burden of Mitigation fees.
  - Burden of development of a product specifically for the CA market that has limited if any association with the core US products.
- Timing disincentive for higher efficiency products (mitigation fee ends 1st), could result in no products being available.
- Fuel Switching – Potentially to less efficient alternatives due to mitigation fee cost.
- Incenting repair versus replace due to higher cost – Loss of emission reduction and efficiency improvements.

Lennox expressed these concerns and other key issues related to the development of low NOx furnace products during our recent meeting with SCAQMD staff and were encouraged by the discussion surrounding these issues. This encouragement extends further to Lennox's perspective of the draft 2016 AQMP where SCAQMD acknowledges:

- The critical importance of incentives that encourage the accelerated transition to cleaner technologies in a manner that benefits not only air quality, but also the local businesses and the regional economy.
- Mobile sources currently contribute about 88 percent of the region's total NOx emissions.
- Without an adequate and fair-share level of reductions from all sources, the emission reduction burden would unfairly be shifted to stationary sources.

Further, Lennox understands that SCAQMD is considering amending Rule 1111 to put in place a heat input based emission limit which will result in lower NOx emissions for high efficiency units compared with standard efficiency units. As part of this consideration a conversion to a PPM metric which is a fundamental input into the current NOx calculation is under consideration. While Lennox can support this direction, careful consideration must be given to the process and the levels taking into account the impacts of product efficiency and reliability as it relates to the combustion process. 44-3 Con't

Lennox strongly recommends that current Rule 1111 be reviewed for alignment with the Draft 2016 AQMP and its stated methods towards achievement of the required air quality standards. Further, Lennox recommends that SCAQMD give full consideration to the recommendations outlined in our recent meeting and encourages further direct dialogue with Lennox on the specific issues regarding Rule 1111, potential rulemaking for Commercial Furnaces and amendments thereof.

In summary, Lennox greatly appreciates the opportunity to engage with SCAQMD both directly and thru these comments. Please contact me directly for any further information needed regarding these issues.

Sincerely,

Dave Winningham,
Sr. Engineering Manager, Regulatory Affairs

Responses to Comment Letter from Lennox International Inc. (Lennox)
(Comment Letter #44)

Response to Comment 44-1:

Staff appreciates the commenter's interest in the development of the 2016 AQMP and recognizing the importance of co-benefits from reductions in GHGs and toxics to assist in reducing criteria pollutants necessary for meeting the federal air quality standards.

Response to Comment 44-2:

The incentive based programs for water heating are based on existing technologies. The technologies for commercial heating furnaces was identified in the previous and the current AQMP. The proposed limits for commercial heating furnaces are consistent with manufacturer's recommendations in workshops and advertised emissions that were provided by manufacturer. The data available at this time suggests that incentivizing residential heating furnaces with emissions less than the rule limit will not result in significant emission reductions over the timeframe analyzed in the control measure. However, an analysis of life cycle emissions under future energy supply scenarios may result in emission reduction opportunities.

Response to Comment 44-3:

CMB-02 does not impact Rule 1111 in the short-term. It proposes incentive programs for water heaters, boilers and potentially commercial space heating furnaces and residential heating furnaces. Lower emitting heating furnaces may be included in incentive programs if there is a potential for significant NOx reductions. Water heaters and boilers provide a much greater opportunity to incentivize NOx reductions. Because an incentive program for residential furnaces cannot be put in place until units meeting the new emission limit are produced, Rule 1111 requirements and mitigation programs do not conflict with the proposed incentive programs. Any proposal to delay compliance dates for Rule 1111 would be addressed independently during a rule amendment. At this time there is no specific proposal by SCAQMD staff to amend Rule 1111. A rule may be developed in the future to regulate NOx emissions from commercial heating furnaces as technology advances.

Comment Letter from Los Angeles Area Chamber of Commerce (Comment Letter #45)

LOS ANGELES AREA
CHAMBER OF COMMERCE

August 19, 2016

Wayne Nastri
Acting Executive Officer
21865 Copley Dr.
Diamond Bar, CA 91765

RE: SCAQMD 2016 DRRAFT AIR QUALITY MANAGEMENT PLAN

Dear Mr. Nastri,

On behalf of the Los Angeles Area Chamber of Commerce, our more than 1,650 members and the more than 650,000 people they employ throughout the region, we are submitting comments in response to the 2016 Air Quality Management Plan (AQMP). The document represents comprehensive air quality goals, policies and programs impacting the South Coast Basin, in addition to environmental needs while promoting economic growth and well-being for all Californians.

The following comments are a collection of the Chamber's stakeholders, which aided in developing what we refer to as "guiding principles", we hope the final AQMP will reflect:
(1) Incentive-based policy framework; We support the District's efforts to work with industry and stakeholders to attain emissions and clean air goals. (2) Incentive based programs; we believe positive outcomes are best achieved through incentives, rather than punitive regulatory actions. The overall policy framework should refrain from being penal in nature, and rather prioritize non-regulatory, incentive based programs. (3) Innovative methodology to reduce emissions should be deployed while acknowledging that the region has made visible strides in lowering emissions from stationary sources. (4) Cost effectiveness and technology neutral equipment and retrofits should also be significantly reflected in the AQMP; in offering cost effective alternatives, stakeholders are not adversely operationally or financially burdened. (5) The plan acknowledges that many of the emission control technologies that are needed are not currently cost effective, but to attain the health standards by the deadline (2023) these control technologies need to be deployed. (6) The plan should be fuel neutral and impartial, offering an array of alternatives to consumers. (7) The AQMP should provide sufficient incentives to offset the capital and operational costs of low emissions technologies to both, mobile and stationary. (8) Facility based measures including potential facility emission caps can cause severe potential implications on the national supply chain. This regulatory action can create an unprecedented expansion to regulate goods movement facilities and shippers and is contrary to efficiency. (9) The plan identifies the need for approximately $2 billion in incentives for stationary sources to assure that the needed control technologies are deployed by the deadline (2023). More specific information of how this plan will be funded is essential to moving forward with implementation. The AQMP should consider partnering with various stakeholders to effectively finance incentive programs.

45-1
45-2
45-3
45-4
45-5

Thank you for your efforts. We look forward to continue working with you.

Sincerely,

Gary Toebben

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President & CEO

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Responses to Comment Letter from Los Angeles Area Chamber of Commerce (Comment Letter #45)

Response to Comment 45-1:

Staff appreciates the support for the incentive programs in the Draft Plan.

Response to Comment 45-2:

The policy in the Plan is to prioritize what is cost-effective and feasible whether through a regulatory approach or an incentive based approach. There is strong support for regulations that are permanent, effective, and enforceable. However, incentives can assist in advanced deployment of cleaner technologies and allow for public acceptability, as well as, provide time for the new technology to be more commercially available, and feasible in more applications.

Response to Comment 45-3:

Please see Response to comment 45-2 regarding cost-effectiveness and the value of incentives to deploy advanced technologies, particularly with fast approaching deadlines for the ozone standards. The plan is fuel neutral in that any power source meeting required emission standards may be used.

Response to Comment 45-4:

During the public process, staff will be taking comments and input on identifying actions that result in additional emission reductions. As part of this effort, staff will examine impacts on the supply chain. In a separate activity, the Ports are evaluating ways to optimize the supply chain. To the extent that emission reductions are realized from the Ports' efforts, staff will work with the Ports and interested stakeholders to quantify the reductions for consideration in recognizing the reductions in the SIP. In implementing the facility-based measures, staff will need to identify enforceable mechanisms, but there is no preconceived conclusion that this would necessarily involve emission caps.

Response to Comment 45-5:

Staff is developing a draft Financial Incentive Funding Action Plan to provide more specific information on potential funding sources and a set of proposed actions to secure funding.

Partnerships are a critical element in developing a successful incentive program and will be emphasized in the draft Financial Incentive Funding Action Plan.